

Memorandum

To: Dennis Baker – Charter Steel
Rick Gaskill – Charter Steel
F. McMasters – AECOM
R. Wodrich - AECOM
Page 1

CC:

Subject: Inspection Results and Recommendations for Sediment Pond

From: Bob Budzilek

Date: December 14, 2011

AECOM is pleased to provide this technical memorandum with the results of the investigation of the sediment pond at the Charter Steel – Cleveland facility.

Purpose of Evaluation

The purpose of this evaluation is to evaluate the current conditions of the storm water pond serving the Charter Steel facility in Cleveland, Ohio, and to determine if there are any actions that might be taken to improve the functioning of the pond.

The pond currently provides storm water detention for a large portion of the plant. The pond allows for sediment to settle out of the storm water flow. The pond also acts as secondary containment in case of an oil release to the storm water collection system at the plant.

Flow enters in the northwest end of the pond, and is manually discharged at the southeast end of the pond at the outfall structure. Discharge quality and quantity are both recorded at the outfall structure during the discharge. The level of the pond can be drained approximately 1 foot from the top of the outfall dam wall through the outfall discharge pipe.

There are two oil containment booms (SlickBar) at either end of the pond. Oil recovery systems used to operate to collect accumulated oil back when the pond was used as a process water pond. The oil recovery systems are inoperable have not operated in several years.

Chain of Custody Record

**SEVERN
TRENT
SERVICES**

Severn Trent Laboratories, Inc.

STL-4124 (12001)

Client ENT		Project Manager JOE HUNT		Date 1/23/02	Chain of Custody Number 077712
Address 5890 Sawmill Dr		Telephone Number (Area Code)/Fax Number (614) 793-0026		Lab Number	Page 1 of 1

City DUBLIN OH	State OH	Zip Code	Site Contact D. KROGER	Lab Contact K. KUZIEL	Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt
Project Name and Location (State) CHARLES STEEL, OH			Carrier/Waybill Number COURIER			

Contract/Purchase Order/Quote No. 5891.01			Matrix				Containers & Preservatives																	Conditions of Receipt
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time															VOC6	METALS	ANION	C3	PH	SPECIFIC CONDUCTIVITY		
			Air	Aqueous	Sed	Soil	Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	H2O2											
TW-01				X			2			3	1		1	X	X	X	X	X	X	X				
TW-02	1/23/02	1320		X			2			3	1		1	X	X	X	X	X	X	X				
TW-03	1/23/02	14:15		X			2			3	1		1	X	X	X	X	X	X	X				
TW-04				X			2			3	1		1	X	X	X	X	X	X	X				
TW-05				X			2			3	1		1	X	X	X	X	X	X	X				

Possible Hazard Identification	Sample Disposal	QC Requirements (Specify)
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown	<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	(A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required	QC Requirements (Specify)
<input checked="" type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> 14 Days <input type="checkbox"/> 21 Days <input type="checkbox"/> Other _____	

1. Relinquished By 	Date 1/23/02	Time 15:30	1. Received By Anne Sanders	Date 1/24/02	Time 7:45
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

Chain of Custody Record



Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client BMT		Project Manager JAC HUNT		Date 01/23/2002	Chain of Custody Number 077711
Address 5900 SAWYER RD SITE 10		Telephone Number (Area Code)/Fax Number (614) 793-0226		Lab Number	Page _____ of _____

City DELIN	State OH	Zip Code	Site Contact D. KREGER	Lab Contact LEW KREGER	Analysis (Attach list if more space is needed)
Project Name and Location (State) CHARGE STEEL (OHIO)			Carrier/Waybill Number CORPUS		

Contract/Purchase Order/Quote No.			Matrix				Containers & Preservatives										Conditions of Receipt																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed.	Soil	Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	BTA	BTEX	MEX	TPH	PCBS	H2O PCE	F																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							

Possible Hazard Identification	Sample Disposal	(A fee may be assessed if samples are retained longer than 3 months)
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Turn Around Time Required	QC Requirements (Specify)
<input checked="" type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> 14 Days <input type="checkbox"/> 21 Days <input type="checkbox"/> Other _____	

1. Relinquished By 	Date 1/23/02	Time 15:30	1. Received By Anne Sanders	Date 1/24/02	Time 7:45
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

General Chemistry

Matrix.....: SOLID

% Moisture.....: 25

Dilution Factor: 1

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A2A240105 Work Order #...: ER6Q2-SMP Matrix.....: SOLID

ER6Q2-DUP

Date Sampled...: 01/23/02 13:00 Date Received...: 01/24/02

% Moisture.....: 23

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Percent Solids	76.7	76.7	%	0.051	(0-20)	SD Lot-Sample #: A2A240240-001 MCAWW 160.3 MOD	01/25-01/28/02	2025176

Dilution Factor: 1

General Chemistry

Matrix.....: WG

Date Received.: 01/24/02

Dilution Factor:

Initial Wgt/Vol:

pH (liquid)

7.4

7.4

No Unit

0.028

(0-20)

SD Lot-Sample #: A2A240105-011

01/24/02

2024478

Dilution Factor: 1

SD Lot-Sample #: A2A240105-011

ND

ND

mg/L

0

(0-10)

MCAWW 305.1

01/25/02

2029212

Dilution Factor: 1

SD Lot-Sample #: A2A240105-011

220

230

umhos/cm 1.3

(0-20)

MCAWW 120.1

01/24/02

2024410

Dilution Factor: 1

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A2A240105

Matrix.....: WATER

Date Sampled...: 01/15/02 10:15 Date Received...: 01/16/02

PARAMETER	PERCENT RECOVERY	RPD	PREPARATION-	PREP
RECOVERY	LIMITS	LIMITS	ANALYSIS DATE	BATCH #
Cyanide, Total		WO#: ERQMX1H6-MS/ERQMX1H7-MSD	MS Lot-Sample #: A2A160210-001	
97	(40 - 130)	MCAWW 335.2	01/28/02	2028173
92	(40 - 130)	5.5 (0-99) MCAWW 335.2	01/28/02	2028173
Dilution Factor: 1				

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A2A240105

Matrix.....: WATER

Date Sampled...: 01/22/02 09:00 Date Received...: 01/24/02

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Mercury	97	(53 - 135)		SW846 7470A	01/25-01/28/02	ER6CW1DL
	93	(53 - 135)	4.1 (0-20)	SW846 7470A	01/25-01/28/02	ER6CW1DM

Dilution Factor: 1

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #....: A2A240105

Matrix.....: WATER

Date Sampled....: 01/22/02 09:00 Date Received...: 01/24/02

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A2A240197-001 Prep Batch #...: 2025114						
Copper	101	(75 - 125)		SW846 6010B	01/25-01/28/02	ER6CW1CX
	102	(75 - 125)	0.97 (0-20)	SW846 6010B	01/25-01/28/02	ER6CW1C0
		Dilution Factor: 1				
Nickel	100	(75 - 125)		SW846 6010B	01/25-01/28/02	ER6CW1C7
	101	(75 - 125)	1.2 (0-20)	SW846 6010B	01/25-01/28/02	ER6CW1C8
		Dilution Factor: 1				
Zinc	104	(75 - 125)		SW846 6010B	01/25-01/28/02	ER6CW1DJ
	104	(75 - 125)	0.71 (0-20)	SW846 6010B	01/25-01/28/02	ER6CW1DK
		Dilution Factor: 1				
Arsenic	99	(75 - 125)		SW846 6010B	01/25-01/28/02	ER6CW1A5
	101	(75 - 125)	1.2 (0-20)	SW846 6010B	01/25-01/28/02	ER6CW1A6
		Dilution Factor: 1				
ium	99	(75 - 125)		SW846 6010B	01/25-01/28/02	ER6CW1CJ
	99	(75 - 125)	0.82 (0-20)	SW846 6010B	01/25-01/28/02	ER6CW1CK
		Dilution Factor: 1				
Cadmium	99	(75 - 125)		SW846 6010B	01/25-01/28/02	ER6CW1CN
	100	(75 - 125)	1.1 (0-20)	SW846 6010B	01/25-01/28/02	ER6CW1CP
		Dilution Factor: 1				
Lead	100	(75 - 125)		SW846 6010B	01/25-01/28/02	ER6CW1A7
	101	(75 - 125)	1.2 (0-20)	SW846 6010B	01/25-01/28/02	ER6CW1A8
		Dilution Factor: 1				
Chromium	99	(75 - 125)		SW846 6010B	01/25-01/28/02	ER6CW1CT
	100	(75 - 125)	1.1 (0-20)	SW846 6010B	01/25-01/28/02	ER6CW1CU
		Dilution Factor: 1				
Selenium	103	(75 - 125)		SW846 6010B	01/25-01/28/02	ER6CW1A9
	104	(75 - 125)	0.93 (0-20)	SW846 6010B	01/25-01/28/02	ER6CW1CA
		Dilution Factor: 1				
Silver	109	(75 - 125)		SW846 6010B	01/25-01/28/02	ER6CW1DC
	112	(75 - 125)	2.1 (0-20)	SW846 6010B	01/25-01/28/02	ER6CW1DD
		Dilution Factor: 1				

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #....: A2A240105 Work Order #....: ERT6H1AD-MS Matrix.....: WATER
 MS Lot-Sample #: A2A170243-006 ERT6H1AE-MSD
 Date Sampled...: 01/14/02 15:55 Date Received...: 01/17/02
 Prep Date.....: 01/25/02 Analysis Date...: 01/25/02
 Prep Batch #....: 2028132
 Dilution Factor: 333.33

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	101	(62 - 130)			SW846 8260B
	103	(62 - 130)	2.2	(0-20)	SW846 8260B
Trichloroethene	98	(62 - 130)			SW846 8260B
	102	(62 - 130)	4.2	(0-20)	SW846 8260B
Benzene	92	(78 - 118)			SW846 8260B
	108	(78 - 118)	3.7	(0-20)	SW846 8260B
Toluene	88	(70 - 119)			SW846 8260B
	90	(70 - 119)	1.9	(0-20)	SW846 8260B
Chlorobenzene	108	(76 - 117)			SW846 8260B
	106	(76 - 117)	1.7	(0-20)	SW846 8260B

ROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	98	(73 - 122)
	94	(73 - 122)
1,2-Dichloroethane-d4	91	(61 - 128)
	96	(61 - 128)
Toluene-d8	86	(76 - 110)
	87	(76 - 110)
4-Bromofluorobenzene	116	(74 - 116)
	118 *	(74 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

* Surrogate recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A2A240105

Matrix.....: WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	99	(97 - 103)	Work Order #: ER7E81AA MCAWW 150.1 Dilution Factor: 1	LCS Lot-Sample#: A2A240000-478 01/24/02	2024478
Cyanide, Total	96	(65 - 114)	Work Order #: ETACE1AC MCAWW 335.2 Dilution Factor: 1	LCS Lot-Sample#: A2A280000-173 01/28/02	2028173
Specific Conductance	102	(75 - 125)	Work Order #: ER6441AC MCAWW 120.1 Dilution Factor: 1	LCS Lot-Sample#: A2A240000-410 01/24/02	2024410

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A2A240105

Matrix.....: WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: A2A250000-114 Prep Batch #...: 2025114					
Copper	99	(80 - 120)	SW846 6010B	01/25-01/28/02	ER7GD1CG
		Dilution Factor: 1			
Nickel	99	(80 - 120)	SW846 6010B	01/25-01/28/02	ER7GD1CL
		Dilution Factor: 1			
Zinc	104	(80 - 120)	SW846 6010B	01/25-01/28/02	ER7GD1CR
		Dilution Factor: 1			
Arsenic	99	(80 - 120)	SW846 6010B	01/25-01/28/02	ER7GD1A3
		Dilution Factor: 1			
Barium	97	(80 - 120)	SW846 6010B	01/25-01/28/02	ER7GD1A9
		Dilution Factor: 1			
Lead	100	(80 - 120)	SW846 6010B	01/25-01/28/02	ER7GD1A4
		Dilution Factor: 1			
Cadmium	100	(80 - 120)	SW846 6010B	01/25-01/28/02	ER7GD1CC
		Dilution Factor: 1			
Selenium	103	(80 - 120)	SW846 6010B	01/25-01/28/02	ER7GD1A5
		Dilution Factor: 1			
Chromium	99	(80 - 120)	SW846 6010B	01/25-01/28/02	ER7GD1CE
		Dilution Factor: 1			
Silver	109	(80 - 120)	SW846 6010B	01/25-01/28/02	ER7GD1CN
		Dilution Factor: 1			
Mercury	93	(70 - 118)	SW846 7470A	01/25-01/28/02	ER7GD1CT
		Dilution Factor: 1			

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #....: A2A240105 Work Order #....: ER5J91AC-LCS Matrix.....: SOLID
 LCS Lot-Sample#: A2A240000-151 ER5J91AD-LCSD
 Prep Date.....: 01/24/02 Analysis Date...: 01/27/02
 Prep Batch #....: 2024151
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	90	(49 - 122)			SW846 8082
	75	(49 - 122)	18	(0-39)	SW846 8082
Aroclor 1260	99	(51 - 127)			SW846 8082
	81	(51 - 127)	20	(0-33)	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	89	(31 - 127)
	72	(31 - 127)
Decachlorobiphenyl	105	(23 - 141)
	83	(23 - 141)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A2A240105 Work Order #...: ER5KM1AC-LCS Matrix.....: SOLID
 LCS Lot-Sample#: A2A240000-152 ER5KM1AD-LCSD
 Prep Date.....: 01/24/02 Analysis Date...: 01/26/02
 Prep Batch #...: 2024152
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Total Petroleum	80	(37 - 153)			SW846 8015B
Hydrocarbons-Extractable	83	(37 - 153)	3.8	(0-98)	SW846 8015B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
C9 (nonane)	37	(10 - 110)
	34	(10 - 110)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #....: A2A240105 Work Order #....: ER7VM1AC-LCS Matrix.....: SOLID
 LCS Lot-Sample#: A2A250000-197 ER7VM1AD-LCSD
 Prep Date.....: 01/24/02 Analysis Date...: 01/24/02
 Prep Batch #....: 2025197
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
TPH (as Gasoline)	85	(74 - 133)			SW846 8015 MOD
	94	(74 - 133)	11	(0-23)	SW846 8015 MOD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Trifluorotoluene	49	(10 - 150)
	51	(10 - 150)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A2A240105 Work Order #...: ER99R1AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A2A280000-132 ER99R1AD-LCSD
 Prep Date.....: 01/25/02 Analysis Date...: 01/25/02
 Prep Batch #...: 2028132
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	102	(63 - 130)			SW846 8260B
	106	(63 - 130)	4.0	(0-20)	SW846 8260B
Trichloroethene	100	(75 - 122)			SW846 8260B
	103	(75 - 122)	3.0	(0-20)	SW846 8260B
Benzene	107	(80 - 116)			SW846 8260B
	108	(80 - 116)	0.79	(0-20)	SW846 8260B
Toluene	91	(74 - 119)			SW846 8260B
	93	(74 - 119)	2.4	(0-20)	SW846 8260B
Chlorobenzene	106	(76 - 117)			SW846 8260B
	109	(76 - 117)	2.7	(0-20)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
bromofluoromethane	97	(73 - 122)
	97	(73 - 122)
1,2-Dichloroethane-d4	94	(61 - 128)
	92	(61 - 128)
Toluene-d8	87	(76 - 110)
	88	(76 - 110)
4-Bromofluorobenzene	109	(74 - 116)
	111	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A2A240105 Work Order #...: ER7HM1AC-LCS Matrix.....: SOLID
 LCS Lot-Sample#: A2A250000-140 ER7HM1AD-LCSD
 Prep Date.....: 01/24/02 Analysis Date...: 01/24/02
 Prep. Batch #...: 2025140
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	109	(55 - 142)			SW846 8260B
	104	(55 - 142)	5.0	(0-27)	SW846 8260B
Trichloroethene	109	(70 - 131)			SW846 8260B
	106	(70 - 131)	2.8	(0-23)	SW846 8260B
Chlorobenzene	104	(75 - 127)			SW846 8260B
	100	(75 - 127)	3.9	(0-22)	SW846 8260B
Toluene	104	(71 - 130)			SW846 8260B
	101	(71 - 130)	3.3	(0-24)	SW846 8260B
Benzene	109	(75 - 129)			SW846 8260B
	107	(75 - 129)	1.8	(0-20)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1-bromofluoromethane	90	(59 - 138)
	88	(59 - 138)
1,2-Dichloroethane-d4	85	(61 - 130)
	81	(61 - 130)
Toluene-d8	92	(60 - 143)
	91	(60 - 143)
4-Bromofluorobenzene	96	(47 - 158)
	95	(47 - 158)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A2A240105

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Percent Solids	ND	Work Order #: ETAG51AA		MB Lot-Sample #:	A2A250000-176	
		10.0	%	MCAWW 160.3 MOD	01/25-01/28/02	2025176
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A2A240105

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Acidity	ND	Work Order #: ETDHX1AA 10	mg/L	MB Lot-Sample #: D2A290000-212 MCAWW 305.1	01/25/02	2029212
		Dilution Factor: 1				
Cyanide, Total	ND	Work Order #: ETACE1AA 0.010	mg/L	MB Lot-Sample #: A2A280000-173 MCAWW 335.2	01/28/02	2028173
		Dilution Factor: 1				
Specific Conductance	ND	Work Order #: ER6441AA 1	umhos/cm	MB Lot-Sample #: A2A240000-410 MCAWW 120.1	01/24/02	2024410
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A2A240105

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A2A250000-114 Prep Batch #...: 2025114						
Copper	ND	0.025	mg/L	SW846 6010B	01/25-01/28/02	ER7GD1AP
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	01/25-01/28/02	ER7GD1AU
		Dilution Factor: 1				
Zinc	0.040	0.020	mg/L	SW846 6010B	01/25-01/28/02	ER7GD1A1
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	01/25-01/28/02	ER7GD1AA
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	01/25-01/28/02	ER7GD1AH
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	01/25-01/28/02	ER7GD1AK
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	01/25-01/28/02	ER7GD1AC
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	01/25-01/28/02	ER7GD1AM
		Dilution Factor: 1				
Selenium	ND	0.0050	mg/L	SW846 6010B	01/25-01/28/02	ER7GD1AD
		Dilution Factor: 1				
Silver	ND	0.010	mg/L	SW846 6010B	01/25-01/28/02	ER7GD1AW
		Dilution Factor: 1				
Mercury	ND	0.00020	mg/L	SW846 7470A	01/25-01/28/02	ER7GD1A2
		Dilution Factor: 1				

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: A2A240105
MB Lot-Sample #: A2A240000-151

Work Order #...: ER5J91AA

Matrix.....: SOLID

Analysis Date...: 01/27/02
Dilution Factor: 1

Prep Date.....: 01/24/02

Prep Batch #...: 2024151

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Aroclor 1016	ND	33	ug/kg	SW846 8082
Aroclor 1221	ND	33	ug/kg	SW846 8082
Aroclor 1232	ND	33	ug/kg	SW846 8082
Aroclor 1242	ND	33	ug/kg	SW846 8082
Aroclor 1248	ND	33	ug/kg	SW846 8082
Aroclor 1254	ND	33	ug/kg	SW846 8082
Aroclor 1260	ND	33	ug/kg	SW846 8082

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Tetrachloro-m-xylene	79	(31 - 127)
Decachlorobiphenyl	88	(23 - 141)

FE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: A2A240105
MB Lot-Sample #: A2A240000-152

Work Order #...: ER5KM1AA

Matrix.....: SOLID

Analysis Date...: 01/26/02
Dilution Factor: 1

Prep Date.....: 01/24/02
Prep Batch #...: 2024152

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
TPH (as Diesel)	ND	10	mg/kg	SW846 8015B
SURROGATE	PERCENT	RECOVERY		
	RECOVERY	LIMITS		
C9 (nonane)	36	(10 - 110)		

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: A2A240105
MB Lot-Sample #: A2A250000-197

Work Order #...: ER7VM1AA

Matrix.....: SOLID

Analysis Date...: 01/24/02

Prep Date.....: 01/24/02

Dilution Factor: 1

Prep Batch #...: 2025197

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
TPH (as Gasoline)	ND	100	ug/kg	SW846 8015 MOD
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
Trifluorotoluene	12	(10 - 150)		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A2A240105

Work Order #...: ER99R1AA

Matrix.....: WATER

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A2A240105
MB Lot-Sample #: A2A280000-132

Work Order #...: ER99R1AA

Matrix.....: WATER

Prep Date.....: 01/25/02

Analysis Date...: 01/25/02

Prep Batch #...: 2028132

Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
Acetone	ND	10	ug/L	SW846 8260B
Carbon disulfide	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	0.50	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	0.50	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
Butanone	ND	10	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	10	ug/L	SW846 8260B
2-Hexanone	ND	10	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	101	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	90	(76 - 110)
4-Bromofluorobenzene	102	(74 - 116)

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A2A240105
MB Lot-Sample #: A2A250000-140

Work Order #...: ER7HM1AA

Matrix.....: SOLID

Analysis Date...: 01/24/02
Dilution Factor: 1

Prep Date.....: 01/24/02

Prep Batch #...: 2025140

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Toluene	ND	5.0	ug/kg	SW846 8260B
Xylenes (total)	ND	10	ug/kg	SW846 8260B
Methyl tert-butyl ether	ND	20	ug/kg	SW846 8260B
Benzene	ND	5.0	ug/kg	SW846 8260B
Ethylbenzene	ND	5.0	ug/kg	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	91	(59 - 138)
1,2-Dichloroethane-d4	87	(61 - 130)
Toluene-d8	95	(60 - 143)
4-Bromofluorobenzene	99	(47 - 158)

RE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

QUALITY CONTROL SECTION

RMT INC

Client Sample ID: TW-03

General Chemistry

Lot-Sample #...: A2A240105-012 Work Order #...: ERSJ8
Date Sampled...: 01/23/02 14:15 Date Received...: 01/24/02

Matrix.....: WG

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	7.8		No Units	MCAWW 150.1	01/24/02	2024478
			Dilution Factor: 1			
Acidity	ND	10	mg/L	MCAWW 305.1	01/25/02	2029212
			Dilution Factor: 1			
Specific Conductance 2500		1	umhos/cm	MCAWW 120.1	01/24/02	2024410
			Dilution Factor: 1			
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	01/28/02	2028173
			Dilution Factor: 1			

RMT INC

Client Sample ID: TW-03

TOTAL Metals

Lot-Sample #...: A2A240105-012

Matrix.....: WG

Date Sampled...: 01/23/02 14:15 Date Received...: 01/24/02

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2025114						
Copper	ND	0.025	mg/L	SW846 6010B	01/25-01/28/02	ER5J81AQ
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	01/25-01/28/02	ER5J81AR
		Dilution Factor: 1				
Zinc	ND	0.020	mg/L	SW846 6010B	01/25-01/28/02	ER5J81AT
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	01/25-01/28/02	ER5J81AG
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	01/25-01/28/02	ER5J81AC
		Dilution Factor: 1				
Amium	ND	0.0050	mg/L	SW846 6010B	01/25-01/28/02	ER5J81AD
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	01/25-01/28/02	ER5J81AH
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	01/25-01/28/02	ER5J81AE
		Dilution Factor: 1				
Selenium	ND	0.0050	mg/L	SW846 6010B	01/25-01/28/02	ER5J81AJ
		Dilution Factor: 1				
Silver	ND	0.010	mg/L	SW846 6010B	01/25-01/28/02	ER5J81AF
		Dilution Factor: 1				
Mercury	ND	0.00020	mg/L	SW846 7470A	01/25-01/28/02	ER5J81AK
		Dilution Factor: 1				

RMT INC

Client Sample ID: TW-03

GC/MS Volatiles

Lot-Sample #....: A2A240105-012 Work Order #....: ER5J81AA Matrix.....: WG
 Date Sampled....: 01/23/02 14:15 Date Received...: 01/24/02
 Prep Date.....: 01/25/02 Analysis Date...: 01/25/02
 Prep Batch #....: 2028132
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
Butanone	ND	10	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	99	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
Toluene-d8	85	(76 - 110)
4-Bromofluorobenzene	104	(74 - 116)

RMT INC

Client Sample ID: TW-02

General Chemistry

Lot-Sample #...: A2A240105-011 Work Order #...: ER5J4 Matrix.....: WG
Date Sampled...: 01/23/02 13:20 Date Received...: 01/24/02

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	7.4		No Units	MCAWW 150.1	01/24/02	2024478
			Dilution Factor: 1			
Acidity	ND	10	mg/L	MCAWW 305.1	01/25/02	2029212
			Dilution Factor: 1			
Specific Conductance 220		1	umhos/cm	MCAWW 120.1	01/24/02	2024410
			Dilution Factor: 1			
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	01/28/02	2028173
			Dilution Factor: 1			

RMT INC

Client Sample ID: TW-02

TOTAL Metals

Lot-Sample #...: A2A240105-011

Matrix.....: WG

Date Sampled...: 01/23/02 13:20 Date Received...: 01/24/02

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2025114						
Copper	ND	0.025	mg/L	SW846 6010B	01/25-01/28/02	ER5J41AT
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	01/25-01/28/02	ER5J41AU
		Dilution Factor: 1				
Zinc	0.060 J,L	0.020	mg/L	SW846 6010B	01/25-01/28/02	ER5J41AV
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	01/25-01/28/02	ER5J41AG
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	01/25-01/28/02	ER5J41AC
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	01/25-01/28/02	ER5J41AD
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	01/25-01/28/02	ER5J41AH
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	01/25-01/28/02	ER5J41AE
		Dilution Factor: 1				
Selenium	ND	0.0050	mg/L	SW846 6010B	01/25-01/28/02	ER5J41AJ
		Dilution Factor: 1				
Silver	ND	0.010	mg/L	SW846 6010B	01/25-01/28/02	ER5J41AF
		Dilution Factor: 1				
Mercury	ND	0.00020	mg/L	SW846 7470A	01/25-01/28/02	ER5J41AK
		Dilution Factor: 1				

NOTE(S):

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

L Serial dilution of a digestate in the analytical batch indicates that physical and chemical interferences are present.

RMT INC

Client Sample ID: TW-02

GC/MS Volatiles

Lot-Sample #...: A2A240105-011 Work Order #...: ER5J41AA Matrix.....: WG
 Date Sampled...: 01/23/02 13:20 Date Received...: 01/24/02
 Prep Date.....: 01/25/02 Analysis Date...: 01/25/02
 Prep Batch #...: 2028132
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
Butanone	ND	10	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	100	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	86	(76 - 110)
4-Bromofluorobenzene	105	(74 - 116)

RMT INC

Client Sample ID: SB-05 12-14

GC/MS Volatiles

Lot-Sample #....: A2A240105-010 Work Order #....: ER5J31AA Matrix.....: SO
Date Sampled....: 01/23/02 11:20 Date Received...: 01/24/02
Prep Date.....: 01/24/02 Analysis Date...: 01/24/02
Prep Batch #....: 2025140
Dilution Factor: 1.3
% Moisture.....: 8.9 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	7.1	ug/kg
Ethylbenzene	ND	7.1	ug/kg
Methyl tert-butyl ether	ND	29	ug/kg
Toluene	ND	7.1	ug/kg
Xylenes (total)	ND	14	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	90	(59 - 138)
1,2-Dichloroethane-d4	87	(61 - 130)
Toluene-d8	93	(60 - 143)
4-Bromofluorobenzene	92	(47 - 158)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-05 9-11

GC/MS Volatiles

Lot-Sample #....: A2A240105-009 Work Order #....: ERSJ21AA Matrix.....: SO
Date Sampled....: 01/23/02 11:00 Date Received...: 01/24/02
Prep Date.....: 01/24/02 Analysis Date...: 01/24/02
Prep Batch #....: 2025140
Dilution Factor: 1.74
% Moisture.....: 6.7 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	9.3	ug/kg
Ethylbenzene	ND	9.3	ug/kg
Methyl tert-butyl ether	ND	37	ug/kg
Toluene	ND	9.3	ug/kg
Xylenes (total)	ND	19	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	87	(59 - 138)
1,2-Dichloroethane-d4	79	(61 - 130)
Toluene-d8	91	(60 - 143)
4-Bromofluorobenzene	92	(47 - 158)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-04 2-4

General Chemistry

Lot-Sample #...: A2A240105-008 Work Order #...: ER5J0 Matrix.....: SO
Date Sampled...: 01/23/02 09:55 Date Received...: 01/24/02
% Moisture.....: 21

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	79.5	10.0	%	MCAWW 160.3 MOD	01/25-01/28/02	2025176

Dilution Factor: 1

RMT INC

Client Sample ID: SB-04 2-4

GC Semivolatiles

Lot-Sample #....: A2A240105-008 Work Order #....: ER5J01AD Matrix.....: SO
 Date Sampled....: 01/23/02 09:55 Date Received...: 01/24/02
 Prep Date.....: 01/24/02 Analysis Date...: 01/26/02
 Prep Batch #....: 2024152
 Dilution Factor: 10
 % Moisture.....: 21 Method.....: SW846 8015B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
TPH (as Diesel)	180	130	mg/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
C9 (nonane)	33 DIL	(10 - 110)

NOTE(S) :

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.
 Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-04 2-4

GC Volatiles

Lot-Sample #...: A2A240105-008 Work Order #...: ER5J01AC Matrix.....: SO
 Date Sampled...: 01/23/02 09:55 Date Received...: 01/24/02
 Prep Date.....: 01/24/02 Analysis Date...: 01/24/02
 Prep Batch #...: 2025197
 Dilution Factor: 1
 % Moisture.....: 21 Method.....: SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	130	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	32	(10 - 150)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-04-0-0.5

General Chemistry

Lot-Sample #....: A2A240105-007 Work Order #....: ER5JN Matrix.....: SO
Date Sampled....: 01/23/02 09:45 Date Received...: 01/24/02
% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	87.6	10.0	%	MCAWW 160.3 MOD	01/25-01/28/02	2025176

Dilution Factor: 1

RMT INC

Client Sample ID: SB-04-0-0.5

GC Semivolatiles

Lot-Sample #...: A2A240105-007 Work Order #...: ER5JN1AD Matrix.....: SO
 Date Sampled...: 01/23/02 09:45 Date Received...: 01/24/02
 Prep Date.....: 01/24/02 Analysis Date...: 01/26/02
 Prep Batch #...: 2024152
 Dilution Factor: 5
 % Moisture.....: 12 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	140	57	mg/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
C9 (nonane)	30 DIL	(10 - 110)

NOTE(S) :

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.
 Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-04-0-0.5

GC Volatiles

Lot-Sample #....: A2A240105-007 Work Order #....: ER5JN1AC Matrix.....: SO
 Date Sampled....: 01/23/02 09:45 Date Received...: 01/24/02
 Prep Date.....: 01/25/02 Analysis Date...: 01/25/02
 Prep Batch #....: 2025197
 Dilution Factor: 1
 % Moisture.....: 12 Method.....: SW846 8015 MOD

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>
TPH (as Gasoline)	ND	110	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
Trifluorotoluene	12	(10 - 150)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-03 2-4

General Chemistry

Lot-Sample #...: A2A240105-006 Work Order #...: ER5JM Matrix.....: SO
Date Sampled...: 01/23/02 09:35 Date Received...: 01/24/02
% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	83.9	10.0	%	MCAWW 160.3 MOD	01/25-01/28/02	2025176

Dilution Factor: 1

RMT INC

Client Sample ID: SB-03 2-4

GC Semivolatiles

Lot-Sample #....: A2A240105-006 Work Order #....: ER5JMLAD Matrix.....: SO
 Date Sampled....: 01/23/02 09:35 Date Received...: 01/24/02
 Prep Date.....: 01/24/02 Analysis Date...: 01/26/02
 Prep Batch #....: 2024152
 Dilution Factor: 1
 % Moisture.....: 16 Method.....: SW846 8015B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>
TPH (as Diesel)	30	12	mg/kg

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
C9 (nonane)	31	(10 - 110)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-03 2-4

GC Volatiles

Lot-Sample #...: A2A240105-006 Work Order #...: ER5JMIAC Matrix.....: SO
 Date Sampled...: 01/23/02 09:35 Date Received...: 01/24/02
 Prep Date.....: 01/24/02 Analysis Date...: 01/24/02
 Prep Batch #...: 2025197
 Dilution Factor: 1
 % Moisture.....: 16 Method.....: SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	120	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	21	(10 - 150)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-03 0-0.5

General Chemistry

Lot-Sample #....: A2A240105-005 Work Order #....: ER5JJ Matrix.....: SO
Date Sampled....: 01/23/02 09:25 Date Received...: 01/24/02
% Moisture.....: 6.5

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	93.5	10.0	%	MCAWW 160.3 MOD	01/25-01/28/02	2025176

Dilution Factor: 1

RMT INC

Client Sample ID: SB-03 0-0.5

GC Semivolatiles

Lot-Sample #...: A2A240105-005 Work Order #...: ER5JJ1AD Matrix.....: SO
 Date Sampled...: 01/23/02 09:25 Date Received...: 01/24/02
 Prep Date.....: 01/24/02 Analysis Date...: 01/26/02
 Prep Batch #...: 2024152
 Dilution Factor: 1
 % Moisture.....: 6.5 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	26	11	mg/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
C9 (nonane)	31	(10 - 110)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-03 0-0.5

GC Volatiles

Lot-Sample #....: A2A240105-005 Work Order #....: ER5JJ1AC Matrix.....: SO
 Date Sampled....: 01/23/02 09:25 Date Received...: 01/24/02
 Prep Date.....: 01/24/02 Analysis Date...: 01/24/02
 Prep Batch #....: 2025197
 Dilution Factor: 1
 % Moisture.....: 6.5 Method.....: SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	110	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	22	(10 - 150)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-02 1.5-2.0

General Chemistry

Lot-Sample #...: A2A240105-004 Work Order #...: ER5JH Matrix.....: SO
Date Sampled...: 01/23/02 09:00 Date Received...: 01/24/02
% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	86.7	10.0	%	MCAWW 160.3 MOD	01/25-01/28/02	2025176

Dilution Factor: 1

RMT INC

Client Sample ID: SB-02 1.5-2.0

GC Semivolatiles

Lot-Sample #....: A2A240105-004 Work Order #....: ER5JH1AC Matrix.....: SO
Date Sampled...: 01/23/02 09:00 Date Received...: 01/24/02
Prep Date.....: 01/24/02 Analysis Date...: 01/27/02
Prep Batch #....: 2024151
Dilution Factor: 1
% Moisture.....: 13 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	38	ug/kg
Aroclor 1221	ND	38	ug/kg
Aroclor 1232	ND	38	ug/kg
Aroclor 1242	ND	38	ug/kg
Aroclor 1248	ND	38	ug/kg
Aroclor 1254	ND	38	ug/kg
Aroclor 1260	ND	38	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	79	(31 - 127)
Decachlorobiphenyl	72	(23 - 141)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-02 1.5-2.0

GC Semivolatiles

Lot-Sample #...: A2A240105-004 Work Order #...: ERSJH1AE Matrix.....: SO
 Date Sampled...: 01/23/02 09:00 Date Received...: 01/24/02
 Prep Date.....: 01/24/02 Analysis Date...: 01/26/02
 Prep Batch #...: 2024152
 Dilution Factor: 2
 % Moisture.....: 13 Method.....: SW846 8015B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
TPH (as Diesel)	69	23	mg/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
C9 (nonane)	28	(10 - 110)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-02 1.5-2.0

GC Volatiles

Lot-Sample #...: A2A240105-004 Work Order #...: ER5JH1AD Matrix.....: SO
 Date Sampled...: 01/23/02 09:00 Date Received...: 01/24/02
 Prep Date.....: 01/24/02 Analysis Date...: 01/24/02
 Prep Batch #...: 2025197
 Dilution Factor: 1
 % Moisture.....: 13 Method.....: SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	120	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	23	(10 - 150)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-02 0-0.5

General Chemistry

Lot-Sample #...: A2A240105-003 Work Order #...: ER5JF Matrix.....: SO
Date Sampled...: 01/23/02 08:50 Date Received...: 01/24/02
% Moisture.....: 11

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Percent Solids	89.2	10.0	%	MCAWW 160.3 MOD	01/25-01/28/02	2025176

Dilution Factor: 1

RMT INC

Client Sample ID: SB-02 0-0.5

GC Semivolatiles

Lot-Sample #....: A2A240105-003 Work Order #....: ER5JF1AC Matrix.....: SO
Date Sampled....: 01/23/02 08:50 Date Received...: 01/24/02
Prep Date.....: 01/24/02 Analysis Date...: 01/27/02
Prep Batch #....: 2024151
Dilution Factor: 1
% Moisture.....: 11 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	37	ug/kg
Aroclor 1221	ND	37	ug/kg
Aroclor 1232	ND	37	ug/kg
Aroclor 1242	ND	37	ug/kg
Aroclor 1248	ND	37	ug/kg
Aroclor 1254	ND	37	ug/kg
Aroclor 1260	64	37	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	78	(31 - 127)
Decachlorobiphenyl	135	(23 - 141)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-02 0-0.5

GC Semivolatiles

Lot-Sample #....: A2A240105-003 Work Order #....: ER5JF1AE Matrix.....: SO
 Date Sampled....: 01/23/02 08:50 Date Received...: 01/24/02
 Prep Date.....: 01/24/02 Analysis Date...: 01/28/02
 Prep Batch #....: 2024152
 Dilution Factor: 5
 % Moisture.....: 11 Method.....: SW846 8015B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
TPH (as Diesel)	190	56	mg/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
C9 (nonane)	28 DIL	(10 - 110)

NOTE(S) :

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.
 Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-02 0-0.5

GC Volatiles

Lot-Sample #....: A2A240105-003 Work Order #....: ER5JF1AD Matrix.....: SO
 Date Sampled....: 01/23/02 08:50 Date Received...: 01/24/02
 Prep Date.....: 01/24/02 Analysis Date...: 01/24/02
 Prep Batch #....: 2025197
 Dilution Factor: 1
 % Moisture.....: 11 Method.....: SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	110	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	25	(10 - 150)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-01 1.5-2.0

General Chemistry

Lot-Sample #...: A2A240105-002 Work Order #...: ER5JC Matrix.....: SO
Date Sampled...: 01/23/02 08:40 Date Received...: 01/24/02
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	89.5	10.0	%	MCAWW 160.3 MOD	01/25-01/28/02	2025176

Dilution Factor: 1

RMT INC

Client Sample ID: SB-01 1.5-2.0

GC Semivolatiles

Lot-Sample #....: A2A240105-002 Work Order #....: ER5JC1AC Matrix.....: SO
Date Sampled....: 01/23/02 08:40 Date Received...: 01/24/02
Prep Date.....: 01/24/02 Analysis Date...: 01/27/02
Prep Batch #....: 2024151
Dilution Factor: 1
% Moisture.....: 11 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	37	ug/kg
Aroclor 1221	ND	37	ug/kg
Aroclor 1232	ND	37	ug/kg
Aroclor 1242	ND	37	ug/kg
Aroclor 1248	ND	37	ug/kg
Aroclor 1254	ND	37	ug/kg
Aroclor 1260	ND	37	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	89	(31 - 127)
Decachlorobiphenyl	92	(23 - 141)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-01 1.5-2.0

GC Semivolatiles

Lot-Sample #...: A2A240105-002 Work Order #...: ER5JC1AE Matrix.....: SO
 Date Sampled...: 01/23/02 08:40 Date Received...: 01/24/02
 Prep Date.....: 01/24/02 Analysis Date...: 01/26/02
 Prep Batch #...: 2024152
 Dilution Factor: 1
 % Moisture.....: 11 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	49	11	mg/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
C9 (nonane)	31	(10 - 110)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-01 1.5-2.0

GC Volatiles

Lot-Sample #....: A2A240105-002 Work Order #....: ER5JC1AD Matrix.....: SO
 Date Sampled...: 01/23/02 08:40 Date Received...: 01/24/02
 Prep Date.....: 01/24/02 Analysis Date...: 01/24/02
 Prep Batch #....: 2025197
 Dilution Factor: 1
 % Moisture.....: 11 Method.....: SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	110	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	24	(10 - 150)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-01 0-0.5

General Chemistry

Lot-Sample #...: A2A240105-001 Work Order #...: ER5H3 Matrix.....: SO
Date Sampled...: 01/23/02 08:30 Date Received...: 01/24/02
% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	88.1	10.0	%	MCAWW 160.3 MOD	01/25-01/28/02	2025176

Dilution Factor: 1

RMT INC

Client Sample ID: SB-01 0-0.5

GC Semivolatiles

Lot-Sample #....: A2A240105-001 Work Order #....: ER5H31AC Matrix.....: SO
 Date Sampled....: 01/23/02 08:30 Date Received...: 01/24/02
 Prep Date.....: 01/24/02 Analysis Date...: 01/27/02
 Prep Batch #....: 2024151
 Dilution Factor: 1
 % Moisture.....: 12 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	37	ug/kg
Aroclor 1221	ND	37	ug/kg
Aroclor 1232	ND	37	ug/kg
Aroclor 1242	ND	37	ug/kg
Aroclor 1248	ND	37	ug/kg
Aroclor 1254	ND	37	ug/kg
Aroclor 1260	71	37	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	96	(31 - 127)
Decachlorobiphenyl	192 *	(23 - 141)

NOTE(S) :

* Surrogate recovery is outside stated control limits.
 Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-01 0-0.5

GC Semivolatiles

Lot-Sample #....: A2A240105-001 Work Order #....: ER5H31AE Matrix.....: SO
 Date Sampled....: 01/23/02 08:30 Date Received...: 01/24/02
 Prep Date.....: 01/24/02 Analysis Date...: 01/28/02
 Prep Batch #....: 2024152
 Dilution Factor: 5
 % Moisture.....: 12 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	220	57	mg/kg
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	
C9 (nonane)	23 DIL	(10 - 110)	

NOTE(S) :

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.
 Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-01 0-0.5

GC Volatiles

Lot-Sample #....: A2A240105-001 Work Order #....: ER5H31AD Matrix.....: SO
 Date Sampled....: 01/23/02 08:30 Date Received...: 01/24/02
 Prep Date.....: 01/24/02 Analysis Date...: 01/24/02
 Prep Batch #....: 2025197
 Dilution Factor: 1
 % Moisture.....: 12 Method.....: SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	110	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	24	(10 - 150)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

SAMPLE SUMMARY

A2A240105

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
ER5H3	001	SB-01 0-0.5	01/23/02	08:30
ER5JC	002	SB-01 1.5-2.0	01/23/02	08:40
ER5JF	003	SB-02 0-0.5	01/23/02	08:50
ER5JH	004	SB-02 1.5-2.0	01/23/02	09:00
ER5JJ	005	SB-03 0-0.5	01/23/02	09:25
ER5JM	006	SB-03 2-4	01/23/02	09:35
ER5JN	007	SB-04-0-0.5	01/23/02	09:45
ER5JO	008	SB-04 2-4	01/23/02	09:55
ER5J2	009	SB-05 9-11	01/23/02	11:00
ER5J3	010	SB-05 12-14	01/23/02	11:20
ER5J4	011	TW-02	01/23/02	13:20
ER5J8	012	TW-03	01/23/02	14:15

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

ANALYTICAL METHODS SUMMARY

A2A240105

PARAMETER	ANALYTICAL METHOD
pH (Electrometric)	MCAWW 150.1
Acidity (Titrimetric)	MCAWW 305.1
Extractable Petroleum Hydrocarbons	SW846 8015B
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 7470A
PCBs by SW-846 8082	SW846 8082
Specific Conductance	MCAWW 120.1
Total Cyanide	MCAWW 335.2
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B
Volatile Petroleum Hydrocarbons	SW846 8015 MOD

References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical
Methods", Third Edition, November 1986 and its updates.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, PAH, and Herbicide methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

STL North Canton Certifications and Approvals:

Alabama (#41170), California (#2157), Connecticut (#PH-0590), Florida (#E87225), Illinois (#100439), Kansas (#E10336), Kentucky (#90021), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), Missouri (#6090), New Jersey (#74001), New York (#10975), North Dakota (#R-156), Ohio (#6090), Ohio VAP (#CL0024), Pennsylvania (#68-340), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

Volatile (GC or GC/MS)

Methylene chloride
Acetone
2-Butanone

Semivolatile (GC/MS)

Phthalate Esters

Metals

Copper
Iron
Zinc
Lead*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*
- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.

CASE NARRATIVE

A2A240105

The following report contains the analytical results for ten solid samples and two water samples submitted to STL North Canton by RMT from the Charter Steel (Ohio) Site, project number 5891.01. The samples were received on January 24, 2002, according to documented sample acceptance procedures and were analyzed in accordance with Ohio Voluntary Action Program protocols (Lab Certification CL0024).

Acidity analyses were performed at STL Denver.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the analytical methods summary page in accordance with the methods indicated. Preliminary results were provided to Joel Hunt and Dave Misky on January 29, 2001. A summary of QC data for these analyses is included at the rear of the report.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The samples were received at the laboratory at a temperature of 2.4° C.

TPH containers for samples SB-05 9-11 and SB-05 12-14 were not received until January 25th. The sample analysis were logged under a separate lot (A2A250196). Also, sample containers for SB-06 were not received.

GC VOLATILES

An LCS/LCSD was provided for batch 2025197 since there was insufficient sample volume to perform an MS/MSD.

METALS

Sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged. Refer to the sample report pages for the affected analyte(s).

Serial dilution of a sample in this lot indicates that physical and chemical interferences were present. Refer to the sample report pages for the affected analytes.

SEVERN
TRENT
SERVICES

STL North Canton
4101 Shuffel Drive NW
North Canton, OH 44720-6961

Tel: 330 497 9396
Fax: 330 497 0772
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. 5891.01

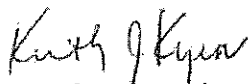
CHARTER STEEL (OHIO)

Lot #: A2A240105

Dave Misky

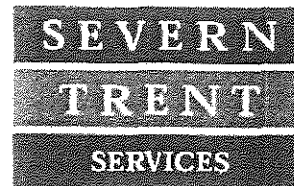
RMT Inc
150 N Patrick Blvd Suite 180
Brookfield, WI 53045-5854

SEVERN TRENT LABORATORIES, INC.


Kenneth J. Kuzior
Project Manager

February 4, 2002

STL North Canton Field Analytical Services and
Courier Cooler Receipt Documentation



Severn Trent Laboratories, Inc.
4101 Shuffle Drive N.W.
North Canton, Ohio 44720

330-497-9396 Phone
330-497-0772 Fax

No sample Chain of Custody forms visible on top of coolers to be signed.
Coolers were taped and or sealed with Custody seals. Courier/FAS did not break seals or
remove tape to enter coolers to locate C.O.C forms.

Samples picked up at ASEW GUARD on 7/25/02 1215 (date/time)
SHACK

By MARC HAINES of Severn Trent Laboratories, Inc.

Samples relinquished to Sample Receiving on 7/25/02 1320 (date/time)

By [Signature] of Severn Trent Laboratories, Inc.

CHAIN OF CUSTODY
PLEASE DO NOT SEPARATE FORMS

EAG WORK ORDER # _____

PAGE 1 OF 1

7118 INDUSTRIAL PARK BLVD. MENTOR, OHIO 44060-5314
(440) 951-3514 FAX (440) 951-3774 (800) 875-3514
website: www.eagroup-ohio.com customerservice@eagroup-ohio.com

Company Name RMT			TURNAROUND (X)		ANALYSIS REQUESTED																SEE REVERSE FOR HOLD TIME RESTRICTIONS					
Report Address 5840 SAWMILL RD			RUSH X																							
City Dubuque State OH Zip																										
Billing Address																										
City SAME State SAME Zip			NORMAL _____																							
Phone (614) 793-0026 Fax			RESULTS (V)																							
Report Attention JOEL HUOT			MAIL _____																							
Project Name CHARACTER STEEL			FAX _____																							
P.O. # 5891.01																										
SAMPLE IDENTIFICATION		MATRIX	COLLECTION TIME	COLLECTION DATE	COX	MTOL	PH	VOC'S	METALS (S, R, Cu + Zn, Ni, Cu)	AUDIT	CO	PH	SPECIFIC CONDUCTANCE													SAMPLE REMARKS: CONDITION, ETC....
SB-06 9-11		SOIL	14:20	11/24/02	X	X	X																			
SB-06 11-13		SOIL	14:40	11/24/02	X	X	X																			
TW-01		CW	8:00	11/25/02				X	X	X	X	X	X													
TW-04		↓	8:45	↓				X	X	X	X	X	X													
TW-05		↓	9:45	↓				X	X	X	X	X	X													
RIP BANK		WATER	—	—				X																		
SB-05 9-11		SOIL	11:00	1/23/02			X																			
SB-05 12-14		SOIL	11:20	1/23/02			X																			
Relinquished by (sign)		Date/Time	Received by (sign)		Date/Time		Additional Comments:																			
Relinquished by (sign)		Date/Time	Received by (sign)		Date/Time																					
Relinquished by (sign)		Date/Time	Received by (sign)		Date/Time																					

WHITE - FILE

YELLOW - INVOICE

PINK - REPORT

GREEN - CUSTOMER

Rev. 11 2/2000

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A2A250196

Work Order #...: ER8Q9-SMP
ER8Q9-DUP

Matrix.....: WATER

Date Sampled...: 01/24/02 11:00 Date Received...: 01/25/02

% Moisture.....: 100

Dilution Factor:

Initial Wgt/Vol:

PARAM	RESULT	DUPLICATE	UNITS	RPD	LIMIT	METHOD	PREPARATION-	PREP
		RESULT					ANALYSIS DATE	BATCH #
pH (liquid)	8.9	9.0	No Units	0.46	(0-20)	MCAWW 150.1	01/25/02	2025428
Dilution Factor: 1								

General Chemistry

% Moisture.....: 16

52

General Chemistry

Matrix WG

% Moisture.....:

Dilution Factor:

Initial Wgt/Vol:

Specific Conductance		SD Lot-Sample #: A2A250196-003	
1400	1500	umhos/cm 2.3 (0-20)	MCAWW 120.1 01/25/02 2025427
Dilution Factor: 1			

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A2A250196

Matrix.....: WG

Date Sampled...: 01/25/02 08:45 Date Received...: 01/25/02

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Cyanide			WC#:	ER8EE1AU-MS/ER8EE1AV-MSD	MS Lot-Sample #:	A2A250196-004	
	94	(40 - 130)			MCAWW 335.2	01/29/02	2029173
	97	(40 - 130)	2.3	(0-99)	MCAWW 335.2	01/29/02	2029173
			Dilution Factor: 1				

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A2A250196

Matrix.....: WATER

Date Sampled...: 01/15/02 10:15 Date Received...: 01/16/02

PARAMETER	PERCENT RECOVERY	RPD	PREPARATION-	PREP
RECOVERY LIMITS	RPD LIMITS	METHOD	ANALYSIS DATE	BATCH #
Cyanide, Total	WO#: ERQMX1H6-MS/ERQMX1H7-MSD	MS Lot-Sample #: A2A160210-001		
97	(40 - 130)	MCAWW 335.2	01/28/02	2028173
92	(40 - 130)	5.5 (0-99) MCAWW 335.2	01/28/02	2028173
Dilution Factor: 1				

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A2A250196

Matrix.....: WATER

Date Sampled...: 01/23/02 10:15 Date Received...: 01/26/02

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Mercury	92	(53 - 135)		SW846 7470A	01/28/02	ER9V81DL
	88	(53 - 135)	3.7 (0-20)	SW846 7470A	01/28/02	ER9V81DM

Dilution Factor: 1

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A2A250196

Matrix.....: WATER

Date Sampled...: 01/23/02 10:15 Date Received...: 01/26/02

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A2A260136-001 Prep Batch #...: 2028106						
Copper	94	(75 - 125)		SW846 6010B	01/28-01/29/02	ER9V81CX
	96	(75 - 125)	2.2 (0-20)	SW846 6010B	01/28-01/29/02	ER9V81C0
		Dilution Factor: 1				
Nickel	91	(75 - 125)		SW846 6010B	01/28-01/29/02	ER9V81C7
	92	(75 - 125)	1.8 (0-20)	SW846 6010B	01/28-01/29/02	ER9V81C8
		Dilution Factor: 1				
Zinc	96	(75 - 125)		SW846 6010B	01/28-01/29/02	ER9V81DJ
	99	(75 - 125)	2.7 (0-20)	SW846 6010B	01/28-01/29/02	ER9V81DK
		Dilution Factor: 1				
Arsenic	93	(75 - 125)		SW846 6010B	01/28-01/29/02	ER9V81A5
	94	(75 - 125)	1.3 (0-20)	SW846 6010B	01/28-01/29/02	ER9V81A6
		Dilution Factor: 1				
Mercury	94	(75 - 125)		SW846 6010B	01/28-01/29/02	ER9V81CJ
	96	(75 - 125)	1.4 (0-20)	SW846 6010B	01/28-01/29/02	ER9V81CK
		Dilution Factor: 1				
Cadmium	90	(75 - 125)		SW846 6010B	01/28-01/29/02	ER9V81CN
	91	(75 - 125)	1.6 (0-20)	SW846 6010B	01/28-01/29/02	ER9V81CP
		Dilution Factor: 1				
Lead	91	(75 - 125)		SW846 6010B	01/28-01/29/02	ER9V81A7
	92	(75 - 125)	0.89 (0-20)	SW846 6010B	01/28-01/29/02	ER9V81A8
		Dilution Factor: 1				
Chromium	91	(75 - 125)		SW846 6010B	01/28-01/29/02	ER9V81CT
	92	(75 - 125)	1.4 (0-20)	SW846 6010B	01/28-01/29/02	ER9V81CU
		Dilution Factor: 1				
Selenium	95	(75 - 125)		SW846 6010B	01/28-01/29/02	ER9V81A9
	96	(75 - 125)	1.2 (0-20)	SW846 6010B	01/28-01/29/02	ER9V81CA
		Dilution Factor: 1				
Silver	103	(75 - 125)		SW846 6010B	01/28-01/29/02	ER9V81DC
	105	(75 - 125)	1.3 (0-20)	SW846 6010B	01/28-01/29/02	ER9V81DD
		Dilution Factor: 1				

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A2A250196 Work Order #...: ER6XQ1AC-MS Matrix.....: WATER
 MS Lot-Sample #: A2A240258-001 ER6XQ1AD-MSD
 Date Sampled...: 01/23/02 13:15 Date Received...: 01/24/02
 Prep Date.....: 01/29/02 Analysis Date...: 01/29/02
 Prep Batch #...: 2030138
 Dilution Factor: 28571.43

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	88	(62 - 130)			SW846 8260B
	90	(62 - 130)	2.7	(0-20)	SW846 8260B
Trichloroethene	121	(62 - 130)			SW846 8260B
	110	(62 - 130)	2.9	(0-20)	SW846 8260B
Benzene	95	(78 - 118)			SW846 8260B
	100	(78 - 118)	5.1	(0-20)	SW846 8260B
Toluene	102	(70 - 119)			SW846 8260B
	99	(70 - 119)	2.7	(0-20)	SW846 8260B
Chlorobenzene	102	(76 - 117)			SW846 8260B
	100	(76 - 117)	1.8	(0-20)	SW846 8260B

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluoromethane	100	(73 - 122)
	98	(73 - 122)
1,2-Dichloroethane-d4	92	(61 - 128)
	91	(61 - 128)
Toluene-d8	104	(76 - 110)
	100	(76 - 110)
4-Bromofluorobenzene	115	(74 - 116)
	111	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A2A250196

Matrix.....: WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	99	(97 - 103)	Work Order #: ER9HC1AA MCAWW 150.1 Dilution Factor: 1	LCS Lot-Sample#: A2A250000-428 01/25/02	2025428
Cyanide, Total	96	(65 - 114)	Work Order #: ETACE1AC MCAWW 335.2 Dilution Factor: 1	LCS Lot-Sample#: A2A280000-173 01/28/02	2028173
Specific Conductance	97	(75 - 125)	Work Order #: ER9HF1AC MCAWW 120.1 Dilution Factor: 1	LCS Lot-Sample#: A2A250000-427 01/25/02	2025427
Total Cyanide	98	(65 - 114)	Work Order #: ETC281AC MCAWW 335.2 Dilution Factor: 10	LCS Lot-Sample#: A2A290000-173 01/29/02	2029173

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A2A250196

Matrix.....: WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: A2A280000-106 Prep Batch #...: 2028106					
Copper	100	(80 - 120)	SW846 6010B	01/28-01/29/02	ER98C1CG
		Dilution Factor: 1			
Nickel	99	(80 - 120)	SW846 6010B	01/28-01/29/02	ER98C1CL
		Dilution Factor: 1			
Zinc	104	(80 - 120)	SW846 6010B	01/28-01/29/02	ER98C1CR
		Dilution Factor: 1			
Arsenic	98	(80 - 120)	SW846 6010B	01/28-01/29/02	ER98C1A3
		Dilution Factor: 1			
Barium	98	(80 - 120)	SW846 6010B	01/28-01/29/02	ER98C1A9
		Dilution Factor: 1			
Lead	99	(80 - 120)	SW846 6010B	01/28-01/29/02	ER98C1A4
		Dilution Factor: 1			
Cadmium	98	(80 - 120)	SW846 6010B	01/28-01/29/02	ER98C1CC
		Dilution Factor: 1			
Selenium	101	(80 - 120)	SW846 6010B	01/28-01/29/02	ER98C1A5
		Dilution Factor: 1			
Chromium	99	(80 - 120)	SW846 6010B	01/28-01/29/02	ER98C1CE
		Dilution Factor: 1			
Silver	110	(80 - 120)	SW846 6010B	01/28-01/29/02	ER98C1CN
		Dilution Factor: 1			
Mercury	93	(70 - 118)	SW846 7470A	01/28/02	ER98C1CT
		Dilution Factor: 1			

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A2A250196 Work Order #...: ETGG21AC-LCS Matrix.....: SOLID
 LCS Lot-Sample#: A2A310000-152 ETGG21AD-LCSD
 Prep Date.....: 01/31/02 Analysis Date...: 02/01/02
 Prep Batch #...: 2031152
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Total Petroleum	65	(37 - 153)			SW846 8015B
Hydrocarbons-Extractable	98	(37 - 153)	41	(0-98)	SW846 8015B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
C9 (nonane)	31	(10 - 110)
	31	(10 - 110)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: A2A250196 Work Order #...: ETC2J1AC-LCS Matrix.....: SOLID
 LCS Lot-Sample#: A2A290000-169 ETC2J1AD-LCSD
 Prep Date.....: 01/28/02 Analysis Date...: 01/28/02
 Prep Batch #...: 2029169
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
TPH (as Gasoline)	97	(60 - 142)			SW846 8015 MOD
	95	(60 - 142)	1.1	(0-27)	SW846 8015 MOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	66	(10 - 150)
	67	(10 - 150)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A2A250196 Work Order #...: ETEM1AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A2A300000-138 ETEM1AD-LCSD
 Prep Date.....: 01/29/02 Analysis Date...: 01/29/02
 Prep Batch #...: 2030138
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	99	(63 - 130)			SW846 8260B
	98	(63 - 130)	1.2	(0-20)	SW846 8260B
Trichloroethene	97	(75 - 122)			SW846 8260B
	99	(75 - 122)	1.5	(0-20)	SW846 8260B
Benzene	99	(80 - 116)			SW846 8260B
	101	(80 - 116)	2.3	(0-20)	SW846 8260B
Toluene	104	(74 - 119)			SW846 8260B
	104	(74 - 119)	0.59	(0-20)	SW846 8260B
Chlorobenzene	102	(76 - 117)			SW846 8260B
	104	(76 - 117)	2.1	(0-20)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluoromethane	99	(73 - 122)
	94	(73 - 122)
1,2-Dichloroethane-d4	96	(61 - 128)
	92	(61 - 128)
Toluene-d8	107	(76 - 110)
	106	(76 - 110)
4-Bromofluorobenzene	107	(74 - 116)
	112	(74 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #....: A2A250196 Work Order #....: ETEL31AC-LCS Matrix.....: SOLID
 LCS Lot-Sample#: A2A300000-125 ETEL31AD-LCSD
 Prep Date.....: 01/29/02 Analysis Date...: 01/29/02
 Prep Batch #....: 2030125
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	100	(55 - 142)			SW846 8260B
	98	(55 - 142)	2.2	(0-27)	SW846 8260B
Trichloroethene	97	(70 - 131)			SW846 8260B
	97	(70 - 131)	0.33	(0-23)	SW846 8260B
Chlorobenzene	98	(75 - 127)			SW846 8260B
	98	(75 - 127)	0.24	(0-22)	SW846 8260B
Benzene	100	(75 - 129)			SW846 8260B
	99	(75 - 129)	1.5	(0-20)	SW846 8260B
Toluene	98	(71 - 130)			SW846 8260B
	98	(71 - 130)	0.010	(0-24)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluoromethane	101	(59 - 138)
	101	(59 - 138)
1,2-Dichloroethane-d4	100	(61 - 130)
	100	(61 - 130)
Toluene-d8	99	(60 - 143)
	100	(60 - 143)
4-Bromofluorobenzene	97	(47 - 158)
	100	(47 - 158)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A2A250196

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Percent Solids	ND	Work Order #: ETAA31AA		MB Lot-Sample #:	A2A280000-149	
		10.0	%	MCAWW 160.3 MOD	01/28-01/29/02	2028149
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A2A250196

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Acidity	ND	Work Order #: ETF181AA 10	mg/L	MB Lot-Sample #: D2A300000-410 MCAWW 305.1	01/30/02	2030410
		Dilution Factor: 1				
Cyanide, Total	ND	Work Order #: ETACE1AA 0.010	mg/L	MB Lot-Sample #: A2A280000-173 MCAWW 335.2	01/28/02	2028173
		Dilution Factor: 1				
Specific Conductance	ND	Work Order #: ER9HF1AA 1	umhos/cm	MB Lot-Sample #: A2A250000-427 MCAWW 120.1	01/25/02	2025427
		Dilution Factor: 1				
Total Cyanide	ND	Work Order #: ETC281AA 0.010	mg/L	MB Lot-Sample #: A2A290000-173 MCAWW 335.2	01/29/02	2029173
		Dilution Factor: 1				

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: A2A250196 Work Order #...: ETGG21AA Matrix.....: SOLID
 MB Lot-Sample #: A2A310000-152
 Analysis Date...: 02/01/02 Prep Date.....: 01/31/02
 Dilution Factor: 1 Prep Batch #...: 2031152

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
TPH (as Diesel)	ND	10	mg/kg	SW846 8015B

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
C9 (nonane)	28	(10 - 110)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: A2A250196
MB Lot-Sample #: A2A290000-169

Work Order #...: ETC2J1AA

Matrix.....: SOLID

Analysis Date...: 01/28/02

Prep Date.....: 01/28/02

Prep Batch #...: 2029169

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
TPH (as Gasoline)	ND	100	ug/kg	SW846 8015 MOD

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
Trifluorotoluene	27	(10 - 150)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A2A250196

Work Order #...: ETEM1AA

Matrix.....: WATER

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A2A250196
 MB Lot-Sample #: A2A300000-138

Work Order #...: ETEMDD1AA

Matrix.....: WATER

Analysis Date...: 01/29/02
 Dilution Factor: 1

Prep Date.....: 01/29/02

Prep Batch #...: 2030138

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
Acetone	ND	10	ug/L	SW846 8260B
Carbon disulfide	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	0.50	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	0.50	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
Butanone	ND	10	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	10	ug/L	SW846 8260B
2-Hexanone	ND	10	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	89	(61 - 128)
Toluene-d8	105	(76 - 110)
4-Bromofluorobenzene	93	(74 - 116)

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A2A250196
MB Lot-Sample #: A2A300000-125

Work Order #...: ETEL31AA

Matrix.....: SOLID

Analysis Date...: 01/29/02
Dilution Factor: 1

Prep Date.....: 01/29/02
Prep Batch #...: 2030125

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Benzene	ND	5.0	ug/kg	SW846 8260B
Ethylbenzene	ND	5.0	ug/kg	SW846 8260B
Toluene	ND	5.0	ug/kg	SW846 8260B
Xylenes (total)	ND	10	ug/kg	SW846 8260B
Methyl tert-butyl ether	ND	20	ug/kg	SW846 8260B
SURROGATE	PERCENT	RECOVERY		
	RECOVERY	LIMITS		
Dibromofluoromethane	99	(59 - 138)		
1,2-Dichloroethane-d4	95	(61 - 130)		
Toluene-d8	97	(60 - 143)		
4-Bromofluorobenzene	94	(47 - 158)		

TE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

QUALITY CONTROL SECTION

RMT INC

Client Sample ID: SB-05 12-14

General Chemistry

Lot-Sample #...: A2A250196-008 Work Order #...: ER8EM Matrix.....: SO
Date Sampled...: 01/23/02 11:20 Date Received...: 01/25/02
% Moisture.....: 8.9

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Percent Solids	91.1	10.0	%	MCAWW 160.3 MOD	01/28-01/29/02	2028149

Dilution Factor: 1

RMT INC

Client Sample ID: SB-05 12-14

GC Semivolatiles

Lot-Sample #....: A2A250196-008 Work Order #....: ER8EM2AD Matrix.....: SO
 Date Sampled....: 01/23/02 11:20 Date Received...: 01/25/02
 Prep Date.....: 01/31/02 Analysis Date...: 02/01/02
 Prep Batch #....: 2031152
 Dilution Factor: 1
 % Moisture.....: 8.9 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	11	mg/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
C9 (nonane)	27	(10 - 110)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-05 12-14

GC Volatiles

Lot-Sample #....: A2A250196-008 Work Order #....: ER8EM1AC Matrix.....: SO
 Date Sampled....: 01/23/02 11:20 Date Received...: 01/25/02
 Prep Date.....: 01/28/02 Analysis Date...: 01/28/02
 Prep Batch #....: 2029169
 Dilution Factor: 1
 % Moisture.....: 8.9 Method.....: SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	110	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	32	(10 - 150)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-05 9-11

General Chemistry

Lot-Sample #....: A2A250196-007 Work Order #....: ER8EH Matrix.....: SO
Date Sampled....: 01/23/02 11:00 Date Received...: 01/25/02
% Moisture.....: 6.7

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	93.3	10.0	%	MCAWW 160.3 MOD	01/28-01/29/02	2028149
Dilution Factor: 1						

RMT INC

Client Sample ID: SB-05 9-11

GC Semivolatiles

Lot-Sample #...: A2A250196-007 Work Order #...: ER8EH2AD Matrix.....: SO
 Date Sampled...: 01/23/02 11:00 Date Received...: 01/25/02
 Prep Date.....: 01/31/02 Analysis Date...: 02/01/02
 Prep Batch #...: 2031152
 Dilution Factor: 1
 % Moisture.....: 6.7 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	11	mg/kg
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	
C9 (nonane)	26	(10 - 110)	

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-05 9-11

GC Volatiles

Lot-Sample #....: A2A250196-007 Work Order #....: ER8EH1AC Matrix.....: SO
 Date Sampled....: 01/23/02 11:00 Date Received...: 01/25/02
 Prep Date.....: 01/28/02 Analysis Date...: 01/28/02
 Prep Batch #....: 2029169
 Dilution Factor: 1
 % Moisture.....: 6.7 Method.....: SW846 8015 MOD

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>
TPH (as Gasoline)	ND	110	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
Trifluorotoluene	30	(10 - 150)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #....: A2A250196-006 Work Order #....: ER8EG1AA Matrix.....: WQ
 Date Sampled....: 01/25/02 Date Received...: 01/25/02
 Prep Date.....: 01/29/02 Analysis Date...: 01/29/02
 Prep Batch #....: 2030138
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
Butanone	ND	10	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	104	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
fluene-d8	105	(76 - 110)
4-Bromofluorobenzene	94	(74 - 116)

RMT INC

Client Sample ID: TW-05

General Chemistry

Lot-Sample #...: A2A250196-005 Work Order #...: ER8EF
Date Sampled...: 01/25/02 09:45 Date Received...: 01/25/02

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
pH (liquid)	10.1		No Units	MCAWW 150.1	01/25/02	2025428
			Dilution Factor: 1			
Acidity	ND	10	mg/L	MCAWW 305.1	01/30/02	2030410
			Dilution Factor: 1			
Specific Conductance 2500		1	umhos/cm	MCAWW 120.1	01/25/02	2025427
			Dilution Factor: 1			
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	01/29/02	2029173
			Dilution Factor: 1			

RMT INC

Client Sample ID: TW-05

TOTAL Metals

Lot-Sample #...: A2A250196-005

Matrix.....: WG

Date Sampled...: 01/25/02 09:45 Date Received...: 01/25/02

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2028106						
Zinc	ND	0.020	mg/L	SW846 6010B	01/28-01/29/02	ER8EF1AE
		Dilution Factor: 1				
Copper	ND	0.025	mg/L	SW846 6010B	01/28-01/29/02	ER8EF1AC
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	01/28-01/29/02	ER8EF1AD
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	01/28-01/29/02	ER8EF1AK
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	01/28-01/29/02	ER8EF1AF
		Dilution Factor: 1				
Chromium	ND	0.0050	mg/L	SW846 6010B	01/28-01/29/02	ER8EF1AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	01/28-01/29/02	ER8EF1AL
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	01/28-01/29/02	ER8EF1AH
		Dilution Factor: 1				
Selenium	ND	0.0050	mg/L	SW846 6010B	01/28-01/29/02	ER8EF1AM
		Dilution Factor: 1				
Silver	ND	0.010	mg/L	SW846 6010B	01/28-01/29/02	ER8EF1AJ
		Dilution Factor: 1				
Mercury	ND	0.00020	mg/L	SW846 7470A	01/28/02	ER8EF1AN
		Dilution Factor: 1				

RMT INC

Client Sample ID: TW-05

GC/MS Volatiles

Lot-Sample #....: A2A250196-005 Work Order #....: ER8EF1AA Matrix.....: WG
 Date Sampled....: 01/25/02 09:45 Date Received...: 01/25/02
 Prep Date.....: 01/29/02 Analysis Date...: 01/29/02
 Prep Batch #....: 2030138
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
Butanone	ND	10	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	1.8	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	99	(73 - 122)
1,2-Dichloroethane-d4	92	(61 - 128)
Toluene-d8	103	(76 - 110)
4-Bromofluorobenzene	97	(74 - 116)

RMT INC

Client Sample ID: TW-04

General Chemistry

Lot-Sample #...: A2A250196-004 Work Order #...: ER8EE Matrix.....: WG
Date Sampled...: 01/25/02 08:45 Date Received...: 01/25/02

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	11.3		No Units	MCAWW 150.1	01/25/02	2025428
			Dilution Factor: 1			
Acidity	ND	10	mg/L	MCAWW 305.1	01/30/02	2030410
			Dilution Factor: 1			
Specific Conductance 3100		1	umhos/cm	MCAWW 120.1	01/25/02	2025427
			Dilution Factor: 1			
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	01/29/02	2029173
			Dilution Factor: 1			

RMT INC

Client Sample ID: TW-04

TOTAL Metals

Lot-Sample #...: A2A250196-004

Matrix.....: WG

Date Sampled...: 01/25/02 08:45 Date Received...: 01/25/02

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2028106						
Copper	ND	0.025	mg/L	SW846 6010B	01/28-01/29/02	ER8EE1AC
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	01/28-01/29/02	ER8EE1AD
		Dilution Factor: 1				
Zinc	ND	0.020	mg/L	SW846 6010B	01/28-01/29/02	ER8EE1AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	01/28-01/29/02	ER8EE1AK
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	01/28-01/29/02	ER8EE1AF
		Dilution Factor: 1				
Cadmium	ND	0.0050	mg/L	SW846 6010B	01/28-01/29/02	ER8EE1AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	01/28-01/29/02	ER8EE1AL
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	01/28-01/29/02	ER8EE1AH
		Dilution Factor: 1				
Selenium	0.0059	0.0050	mg/L	SW846 6010B	01/28-01/29/02	ER8EE1AM
		Dilution Factor: 1				
Silver	ND	0.010	mg/L	SW846 6010B	01/28-01/29/02	ER8EE1AJ
		Dilution Factor: 1				
Mercury	ND	0.00020	mg/L	SW846 7470A	01/28/02	ER8EE1AN
		Dilution Factor: 1				

RMT INC

Client Sample ID: TW-04

GC/MS Volatiles

Lot-Sample #....: A2A250196-004 Work Order #....: ER8EE1AA Matrix.....: WG
 Date Sampled....: 01/25/02 08:45 Date Received...: 01/25/02
 Prep Date.....: 01/29/02 Analysis Date...: 01/29/02
 Prep Batch #....: 2030138
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
cis-1,2-Dichloroethene	0.51	0.50	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
Butanone	ND	10	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	1.5	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	2.2	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	92	(61 - 128)
Toluene-d8	102	(76 - 110)
4-Bromofluorobenzene	97	(74 - 116)

RMT INC

Client Sample ID: TW-01

General Chemistry

Lot-Sample #...: A2A250196-003 Work Order #...: ER8D6
Date Sampled...: 01/25/02 08:00 Date Received...: 01/25/02

Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
pH (liquid)	7.7		No Units	MCAWW 150.1	01/25/02	2025428
			Dilution Factor: 1			
Acidity	ND	10	mg/L	MCAWW 305.1	01/30/02	2030410
			Dilution Factor: 1			
Specific Conductance 1400		1	umhos/cm	MCAWW 120.1	01/25/02	2025427
			Dilution Factor: 1			
Total Cyanide	ND	0.010	mg/L	MCAWW 335.2	01/28/02	2028173
			Dilution Factor: 1			

RMT INC

Client Sample ID: TW-01

TOTAL Metals

Lot-Sample #...: A2A250196-003

Matrix.....: WG

Date Sampled...: 01/25/02 08:00 Date Received...: 01/25/02

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2028106						
Copper	ND	0.025	mg/L	SW846 6010B	01/28-01/29/02	ER8D61AC
		Dilution Factor: 1				
Nickel	ND	0.040	mg/L	SW846 6010B	01/28-01/29/02	ER8D61AD
		Dilution Factor: 1				
Zinc	ND	0.020	mg/L	SW846 6010B	01/28-01/29/02	ER8D61AE
		Dilution Factor: 1				
Arsenic	ND	0.010	mg/L	SW846 6010B	01/28-01/29/02	ER8D61AK
		Dilution Factor: 1				
Barium	ND	0.20	mg/L	SW846 6010B	01/28-01/29/02	ER8D61AF
		Dilution Factor: 1				
Mnium	ND	0.0050	mg/L	SW846 6010B	01/28-01/29/02	ER8D61AG
		Dilution Factor: 1				
Lead	ND	0.0030	mg/L	SW846 6010B	01/28-01/29/02	ER8D61AL
		Dilution Factor: 1				
Chromium	ND	0.010	mg/L	SW846 6010B	01/28-01/29/02	ER8D61AH
		Dilution Factor: 1				
Selenium	ND	0.0050	mg/L	SW846 6010B	01/28-01/29/02	ER8D61AM
		Dilution Factor: 1				
Silver	ND	0.010	mg/L	SW846 6010B	01/28-01/29/02	ER8D61AJ
		Dilution Factor: 1				
Mercury	ND	0.00020	mg/L	SW846 7470A	01/28/02	ER8D61AN
		Dilution Factor: 1				

RMT INC

Client Sample ID: TW-01

GC/MS Volatiles

Lot-Sample #....: A2A250196-003 Work Order #....: ER8D61AA Matrix.....: WG
 Date Sampled...: 01/25/02 08:00 Date Received...: 01/25/02
 Prep Date.....: 01/29/02 Analysis Date...: 01/29/02
 Prep Batch #....: 2030138
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
Butanone	ND	10	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	100	(73 - 122)
1,2-Dichloroethane-d4	93	(61 - 128)
Blueene-d8	107	(76 - 110)
4-Bromofluorobenzene	96	(74 - 116)

RMT INC

Client Sample ID: SB-06 11-13

General Chemistry

Lot-Sample #...: A2A250196-002 Work Order #...: ER8D5 Matrix.....: SO
Date Sampled...: 01/24/02 14:40 Date Received...: 01/25/02
% Moisture.....: 8.9

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	91.1	10.0	%	MCAWW 160.3 MOD	01/28-01/29/02	2028149

Dilution Factor: 1

RMT INC

Client Sample ID: SB-06 11-13

GC Semivolatiles

Lot-Sample #....: A2A250196-002 Work Order #....: ER8D52AC Matrix.....: SO
 Date Sampled....: 01/24/02 14:40 Date Received...: 01/25/02
 Prep Date.....: 01/31/02 Analysis Date...: 02/01/02
 Prep Batch #....: 2031152
 Dilution Factor: 2
 % Moisture.....: 8.9 Method.....: SW846 8015B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
TPH (as Diesel)	77	22	mg/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
C9 (nonane)	21	(10 - 110)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-06 11-13

GC Volatiles

Lot-Sample #....: A2A250196-002 Work Order #....: ER8D51AE Matrix.....: SO
 Date Sampled....: 01/24/02 14:40 Date Received...: 01/25/02
 Prep Date.....: 01/28/02 Analysis Date...: 01/28/02
 Prep Batch #....: 2029169
 Dilution Factor: 1
 % Moisture.....: 8.9 Method.....: SW846 8015 MOD

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>
TPH (as Gasoline)	ND	110	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
Trifluorotoluene	28	(10 - 150)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-06 11-13

GC/MS Volatiles

Lot-Sample #....: A2A250196-002 Work Order #....: ER8D51AD Matrix.....: SO
Date Sampled....: 01/24/02 14:40 Date Received...: 01/25/02
Prep Date.....: 01/29/02 Analysis Date...: 01/29/02
Prep Batch #....: 2030125
Dilution Factor: 1.06
% Moisture.....: 8.9 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	5.8	ug/kg
Ethylbenzene	ND	5.8	ug/kg
Methyl tert-butyl ether	ND	23	ug/kg
Toluene	ND	5.8	ug/kg
Xylenes (total)	ND	12	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	99	(59 - 138)
1,2-Dichloroethane-d4	94	(61 - 130)
Toluene-d8	106	(60 - 143)
4-Bromofluorobenzene	85	(47 - 158)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-06 9-11

General Chemistry

Lot-Sample #...: A2A250196-001 Work Order #...: ER8D3 Matrix.....: SO
Date Sampled...: 01/24/02 14:20 Date Received...: 01/25/02
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	89.4	10.0	%	MCAWW 160.3 MOD	01/28-01/29/02	2028149

Dilution Factor: 1

RMT INC

Client Sample ID: SB-06 9-11

GC Semivolatiles

Lot-Sample #....: A2A250196-001 Work Order #....: ER8D32AC Matrix.....: SO
 Date Sampled...: 01/24/02 14:20 Date Received...: 01/25/02
 Prep Date.....: 01/31/02 Analysis Date...: 02/01/02
 Prep Batch #....: 2031152
 Dilution Factor: 10
 % Moisture.....: 11 Method.....: SW846 8015B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>
TPH (as Diesel)	110	110	mg/kg

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
C9 (nonane)	19 DIL	(10 - 110)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.
 Results and reporting limits have been adjusted for dry weight.

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Due Diligence Assistance and Phase I/II Site Assessment Activities

**American Steel and Wire Facility
4300 East 49th Street
Cuyahoga Heights, Ohio 44125**

*Prepared For
Charter Steel Company
Saukville, Wisconsin*

February 2002

*Privileged Information
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Volume I of II

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Project Hydrogeologist

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Section 6

Focused Phase II Investigation

6.1 Objectives and Phase II Overview

The focused Phase II investigation of the ASW facility in Cuyahoga Heights, Ohio, was conducted by RMT between January 22 and January 25, 2002. The objectives of the focused Phase II activities were:

- To confirm or deny the potential for significant liability associated with specific areas of the site that were identified after a site walkover and review of technical information during a Phase I Environmental Review and then discussed with and approved by representatives of Birmingham Steel.
- To compare the sampling and analytical results to applicable Ohio Voluntary Action Program (VAP) requirements and assess the potential impact on site related environmental liabilities.

The scope of the limited Phase II investigation was limited to those potentially significant environmental liabilities that may have occurred subsequent to ASW's purchase of the property from U.S. Steel in 1986. The investigation did not include any of the property previously owned by ASW that is now owned by Gibraltar Strip Steel Corporation, ALCOA, or MetroParks. The planned objectives, sampling locations, and analyses for the Phase II investigation are shown in Table 1.

6.2 Investigation Program and Analytical Procedures

David Kreeger, geologist with RMT, provided technical oversight and collected all samples associated with this investigation. H.A.D. Inc. (H.A.D.) advanced the soil borings and obtained samples using a Geoprobe 5400 (direct-push technology) at all locations except for TW-01, TW-04, TW-05, and SB-06 where drilling refusal was encountered. Borings and temporary well installation at these locations were advanced by H.A.D. using a CME 85 and hollow-stem auger techniques. Ray Smith from Birmingham Steel Corporation provided field coordination.

A total of six soil borings and five temporary wells were completed. A stainless steel sampling barrel, containing a disposable acetate liner was used to collect all soil samples except for SB-06. The core barrel was 2 inches in diameter and 4 feet long. Soil samples were continuously collected at 4-foot intervals, logged, and analyzed with a photo-ionization detector (PID) for the presence of organic vapors. At SB-06, soil samples were collected using a stainless-steel split spoon. Split spoon sampling was done in general accordance with ASTM-D1586 standard

procedures. Boring logs for each sampling location are included in Appendix C. Boring locations are shown on Figure 3.

Temporary wells were installed using 1-inch PVC (TW-02 and TW-03) or 2-inch PVC (TW-01, TW-04, and TW-05). All wells had 10-foot screens at the bottom of each well that were placed to straddle the first observed zone of saturation. The depths of screened intervals are shown in Table 2. The 1-inch wells were allowed to naturally collapse around the screens. Sand-pack was placed adjacent to the 2-inch well screens and a bentonite seal was placed above the sand pack material. All wells were developed to low turbidity by bailing and peristaltic pumping. All wells were allowed to rest overnight before purging and sampling with a peristaltic pump.

A summary of drilling methods, boring depths, sample depths and analytical parameters is shown in Table 2. All samples were submitted under chain-of-custody to Severn Trent Laboratories for analysis using Ohio VAP-certified methods and protocols. Split samples were provided to Ray Smith. Each sample was collected using new disposable latex gloves and immediately placed in an ice-filled container and transported via courier to Severn Trent Laboratories in North Canton, Ohio.

Prior to completing each boring, all sampling equipment and push rods were decontaminated by washing and allowed to air dry. Geoprobe equipment was washed using an Alconox solution. Auger equipment was washed using a high pressure, hot water cleaner. Decontamination fluids, well development fluids and purge water was containerized in buckets for disposal by Birmingham Steel Corporation. All excess soils were placed in four 55-gallon drums that were left on site for disposal by Birmingham Steel Corporation. All additional waste, (personal protective equipment, paper towels, and acetate liners) was double-bagged and disposed on site in the municipal dumpster. Upon completion, each boring was backfilled with bentonite chips and properly hydrated to seal the annulus. The temporary wells were left in place to be abandoned after the results were reviewed and final information evaluated.

6.3 Results of the Investigations

6.3.1 Regional Geology

As discussed earlier, the regional geology of Cuyahoga County consists of unconsolidated surficial deposits of primarily glacial origin overlying Ohio Shale of Devonian age. The surficial deposits are composed of undifferentiated silt and clay and are lacustrine in origin (Ford, 1987). These deposits are interbedded with sand and gravel in terraces along the Cuyahoga River valley. However, the uplands of Cuyahoga Heights are primarily composed of man-made surfaces (*i.e.*, reclaimed land, cut and fill,

dumps, concrete, asphalt, and buildings). This includes the bluff located on the subject property which has been used as a fill area for various wastes including slag, mill waste, mill scale, foundry sand, and general plant refuse.

6.3.2 Regional Groundwater Occurrence and Flow

The depth to groundwater varies depending on the local hydrogeology and topography. Based on previous subsurface investigative activities, the depth to groundwater ranges from approximately 20 feet bgs in the southern part of the property (adjacent to the river) and greater than 75 bgs on the northern part (bluff). The regional movement of groundwater for the area is toward the Cuyahoga River adjacent to the southern property boundary of the site. Cuyahoga Heights relies on the Cleveland Division of Water for potable water that is supplied from Lake Erie.

6.3.3 Site Geology

Site-specific geology was interpreted from several previous reports and from the 11 soil borings advanced by RMT in January 2002 (SB-01 through SB-06 and TW-01 through TW-05).

The bluff of the site is covered with asphalt, concrete, or buildings. RMT advanced six soil borings (SB-01 through SB-06) on the bluff during the recent investigation by RMT with the deepest boring advanced being 16 feet bgs. Fill material was encountered throughout each of the six soil borings with the consisting of sand, silt, gravel, and slag debris. The depth of the fill is unknown, however, based on previous investigations, the depth of the fill present under the asphalt, concrete, or buildings is at least 50 feet bgs.

RMT advanced five additional soil borings on the low-lying area adjacent to the Cuyahoga River (TW-01 through TW-05). The depths of the soil borings ranged from 25 to 29 feet bgs with native material being predominant in soil borings TW-1 and TW-2. In general, the native soils consisted of interbedded silt, silty-clay, and sand. Soil borings TW-3 through TW-5 were generally composed of fill material including sand, gravel, and slag debris. Native material was observed at depths of 27 feet bgs (TW-3) and 22 feet bgs (TW-4). Fill was observed throughout soil boring TW-5 to a boring termination depth of 29 feet bgs.

6.3.4 Site Hydrogeology

During the recent site investigation, five of the soil borings were completed as temporary monitoring wells (TW-1 through TW-5) on the low-lying area of the site. The locations of the wells are illustrated on Figure 3. The intent of the monitoring wells was

to collect groundwater samples to define downgradient groundwater quality at the site. Water levels were measured at each temporary well prior to sampling with depths ranging from approximately 17 to 21 feet bgs. However, since the wells were temporary and the water levels did not reach equilibrium, groundwater flow directions and hydraulic gradients were not specifically determined. Based on information from previous investigations, the horizontal groundwater system at the facility appears to have a south-southwesterly flow direction.

6.3.5 Chemical Results

The analytical results for detected parameters are summarized on Tables 3 and 4. Detailed analytical report forms are included in Appendix D. Overall, many of the soil samples contained detected levels of constituents of concern that exceeded the respective laboratory quantitation limits; however, none of the samples were reported to have any hazardous constituent above the Ohio VAP Generic Direct Contact Industrial Standards. Furthermore, none of the collected groundwater samples contained constituents that exceeded Ohio VAP potable use standards (also known as Maximum Contaminant Levels (MCLs)).

Poly-chlorinated Biphenyls (PCBs) from Transformers

In order to assess the potential for PCB contamination from historic transformer use on the site, stained soils near transformers owned by ASW were sampled and analyzed. Based upon site observations, the soils near the transformers located between the Gibraltar Strip Steel building and the ASW wire drawing operation were sampled. These soil samples from locations SB 01 and SB 02, were analyzed for PCBs. Total Petroleum Hydrocarbons (TPH) as diesel and TPH as gasoline and the results are summarized in Table 3. PCB Aroclor 1260 was reported in the 0-0.5 foot samples at 71 µg/kg and 64 µg/kg in SB-01 and SB-02, respectively. No detectable PCBs were reported in the 1.5 to 2.0 foot samples. TPH as diesel was reported in all four samples at concentrations ranging from 49 to 220 mg/kg. No detectable TPH as gasoline was reported. These parameters are all below the Ohio VAP regulated concentrations by almost an order of magnitude or more. In addition, the vertical extent of impacts is also limited since the detected concentration of both PCBs and TPH declined consistently with depth.

Historic Oil Spill Area

Soil samples were also collected from the area of a reported historic oil spill southwest of the Gibraltar Strip Steel building. Two samples each from SB 03 and SB 04 were analyzed for TPH as diesel, and TPH as gasoline (see Table 3 for a summary of the results). TPH as diesel was reported in all four samples at concentrations ranging from 26 to 180 mg/kg. No detectable TPH as gasoline was reported. These results are also below the Ohio VAP regulated concentrations.

Former Gasoline Underground Storage tank

Two soil borings (SB 05 and SB 06) were advanced in the area close to a former gasoline underground storage tank. The borings were advanced to depths of 12 to 14 feet bgs. Two samples from each soil boring were selected for analyses of benzene, ethylbenzene, toluene, xylenes and MTBE (methyl tert-butyl ether), TPH as diesel, and TPH as gasoline. As presented on Table 3, no detectable analytes were reported except for TPH as diesel at 110 mg/kg and 77 mg/kg in SB-06 9 to 11 foot and 11 to 13 foot samples, respectively. These concentrations are also below Ohio VAP regulated levels.

Down-gradient Groundwater Quality

Five temporary groundwater monitoring wells were installed near the southern property boundary to assess groundwater quality at locations expected to be down-gradient of the facility. The five groundwater samples were analyzed for 11 metals, VOCs, total cyanide, specific conductance and pH.

As can be seen on Table 4, there were only a limited number of detected parameters in the five groundwater samples and those detected concentrations were below the Ohio based MCLs where they exist. Using the MCLs as standards is a conservative comparison criteria since the shallow groundwater is not used as a potable drinking water source on site or in the Cleveland city area. The presence of these constituents at detectable concentration levels does indicate however, that there are areas of soil contamination at some locations that have impacted groundwater. However, since the monitoring well locations are at least hundreds of feet down-gradient of the most likely sources (i.e., the former perchloroethylene above ground tank), it appears that these constituents are being effectively remediated before they reach the property line by the natural attenuative conditions at the site. Although there are no specific groundwater standards for pH, the elevated pH is further evidence that

site activities have impacted the groundwater quality. It is important to realize that industrial fill is saturated at monitoring wells TW 04 and TW 05 and therefore the elevated pH may be associated with alkalinity leached from the fill materials.

What procedures were used for analysis?

Table 1
Phase II Sampling Plan
ASW Cuyohaga Heights, Ohio

Objective and Sample Locations	Investigation Program		Analytical Program	
	Number	Depth	Soil Samples	Groundwater
Define downgradient groundwater quality. Place wells on southern property boundary as much as possible, near the access road.	4 to 6 water table wells	20 to 30 feet bgs	N/A	RCRA Metals + Zn, Ni, Cu; VOCs; pH; acidity; CN; conductivity
Determine possible presence of polychlorinated biphenyls (PCBs) in soils above action levels. Locate samples near Gibraltar/ASW transformers and near two other areas where large ASW transformers are located or staining is present.	2 locations (4 samples)	0 to 2 feet bgs (analyze at 0 to 0.5 foot and 1.5 to 2.0 foot intervals)	PCBs and TPH on each sample	N/A
Determine impacts of observed oil spill southwest of Gibraltar operations, as described by ERM in correspondence dated May 10, 1990.	2 borings (4 samples)	4 feet bgs (analyze two samples at 0 to 0.5 feet bgs and two samples at either 2 to 4 feet bgs or 4 to 6 feet bgs)	TPH with PCBs on hold	N/A
Establish if there are residual impacts from former gasoline UST near Boiler House (based upon correspondence by Water and Air Research, Inc. dated December 27, 1989).	2 borings (2 samples)	10 to 15 feet bgs (analyze at suspected invert location and one sample below)	BTEX, hexane, MTBE and TPH	N/A

Notes:

N/A means not applicable

1. Wells are temporary one-inch nominal diameter wells installed and sampled. Abandonment after groundwater results are received.
2. Metals analyses include analyses for eight RCRA metals, copper, nickel and zinc.
3. Analytical Methods: SW 846 - PCBs Method 8082; TPH as diesel Method 8015B and TPH as gasoline Method 8015MOD; VOCs Method 8260B; Metals Methods 6010B and 7470A(Hg); and MCAWW -Cyanide Method 335.2.
4. All soil sample intervals are approximate and subject to change depending upon field observations.

Table 2
Limited Phase II Investigation Sample Summary

Location	Boring Depth (feet)	Installation Method	Sample Matrix	Sample/Screen Depth (feet)	Analysis
SB-01	2.0	Direct Push	Soil	0 to 0.5 1.5 to 2.0	TPH, PCBs
SB-02	2.0	Direct Push	Soil	0 to 0.5 1.5 to 2.0	TPH, PCBs
SB-03	4.0	Direct Push	Soil	0 to 0.5 2.0 to 4.0	TPH, Hold for PCBs
SB-04	4.0	Direct Push	Soil	0 to 0.5 2.0 to 4.0	TPH, Hold for PCBs
SB-05	16.0	Direct Push	Soil	9.0 to 11.0 12.0 to 14.0	BTEX, TPH, MTBE
SB-06	15.0	Direct Push Hollow Stem Auger	Soil	9.0 to 11.0 11.0 to 13.0	BTEX, TPH, MTBE
TW-01	29.0	Hollow Stem Auger	Groundwater	19.0 to 29.0	VOCs, TPH, Metals, pH, Specific Conductivity, Acidity
TW-02	28.0	Direct Push	Groundwater	14.0 to 24.0	VOCs, TPH, Metals, pH, Specific Conductivity, Acidity
TW-03	28.0	Direct Push	Groundwater	14.0 to 24.0	VOCs, TPH, Metals, pH, Specific Conductivity, Acidity
TW-04	25.0	Hollow Stem Auger	Groundwater	15.0 to 25.0	VOCs, TPH, Metals, pH, Specific Conductivity, Acidity
TW-05	29.0	Hollow Stem Auger	Groundwater	19.0 to 29.0	VOCs, TPH, Metals, pH, Specific Conductivity, Acidity

Table 3
Summary of Soil Analytical Data
Charter Steel - Cuyahoga Heights, Ohio

			Polychlorinated Biphenyls (µg/kg)	TPH as Diesel (mg/kg)	TPH as Gasoline (mg/kg)	Total PVOCs (mg/kg)
Ohio EPA VAP Generic Industrial Direct Contact And Hydrocarbon Soil Saturation Criteria			25,000	2,000	1,000	
Soil Sample	Date Collected	Approximate Depth				
SB-01	1/23/2002	0-0.5'	71	220	<110	NA
		1.5-2.0'	<37	49	<110	NA
SB-02	1/23/2002	0-0.5'	64	190	<110	NA
		1.5-2.0'	<37	69	<120	NA
SB-03	1/23/2002	0-0.5'	NA	26	<110	NA
		2-4'	NA	30	<120	NA
SB-04	1/23/2002	0-0.5'	NA	140	<110	NA
		2-4'	NA	180	<130	NA
SB-05	1/23/2002	9-11'	NA	NA	NA	ND
		12-14'	NA	NA	NA	ND
SB-06	1/24/2002	9-11'	NA	140	<110	ND
		11-13'	NA	91	<110	ND

NOTES:

Standards are from Ohio EPA's VAP Generic Direct-Contact Standards (Tables I, IV, and V) and are for comparison purposes only

mg/kg = milligrams per kilogram

µg/kg = micrograms per kilogram

NA = Not Analyzed

ND = Not Detected

PVOCs = Petroleum Volatile Organic Compounds

TPH = Total Petroleum Hydrocarbons

VAP = Voluntary Action Program

Table 4

Summary of Groundwater Analytical Data
Charter Steel - Cuyahoga Heights, Ohio

		Selenium (mg/L)	Zinc (mg/L)	cis-1,2-Dichloroethene (µg/L)	Trichloroethene (µg/L)	Tetrachloroethene (µg/L)	Acidity (mg/L)	Total Cyanide (mg/L)	Specific Conductance (µmhos/cm)	pH
Ohio EPA VAP MCL Standards		0.05	5	70	5	5	NE	0.2	NE	NE
Groundwater Sample	Date Collected									
TW-1	1/25/2002	<0.0050	<0.020	<0.50	<1.0	<1.0	<10	<0.010	1,400	7.7
TW-2	1/23/2002	<0.0050	0.060 J, L	<0.50	<1.0	<1.0	<10	<0.010	220	7.4
TW-3	1/23/2002	<0.0050	<0.020	<0.50	<1.0	<1.0	<10	<0.010	2,500	7.8
TW-4	1/25/2002	0.0059	<0.020	0.51	1.5	2.2	<10	<0.010	3,100	11.3
TW-5	1/25/2002	<0.0050	<0.020	<0.50	<1.0	1.8	<10	<0.010	2,500	10.1

NOTES:

Of the metal and VOC compounds analyzed for, only those reported in at least one sample are presented in this table.

mg/L = milligrams per liter

µg/L = micrograms per liter

MCL = Maximum Contaminant Level

NE = MCLs Not Established

J = Method blank contamination

L = Physical and chemical interferences present

VAP = Voluntary Action Program

Appendix C

Boring Logs

RMT Field Soil Boring Log Information

'T Project No: 00-05984.01

Page 1 of 1

Project Name Charter Steel		Start Date 01/23/02		End Date 01/23/02		Boring Number SB-01	
Boring Drilled By HAD Drilling, Inc. Andy Woff		Drilling Method Geoprobe					
Drill Rig Geoprobe 5400		Common Well Name —		Initial Water Level —		Surface Elevation —	
Boring Location State Plane		Easting		Northing		Local Grid Location (If applicable)	
1/4 of		1/4 of Section		T		N, R	
County Cuyahoga		State OH		DNR County Code —		Civil Town/City/ or Village Cuyahoga Heights	

Number	Length (In) Recovered	Blow Counts	Depth In Feet	Group Name, Percent & Range of Particle Sizes, Plasticity, Color, Odor, Moisture, Density/Consistency, Additional Comments, Geologic Origin (Stratigraphic Unit)	Sample Type	PID/FID	Standard Penetration	Well Diagram	ROD/ Comments
	6	1	0	SELT (ML), some clay, dark brown (104R 4/3), moist,					
			0.5	P.H., some sand, some gravel					
1	6	1	1.0	SLAG DEBRIS					
	6	1	1.5	FILTY-CLAY (CL), nonplastic, yellow-brown (104R 5/8), hard					
	6	1	2.0	SLAG DEBRIS					
				SAND (SM), few gravel, yellow-brown (104R 5/8), moist, some slag					
				EOB at 2.0' bgs					

Logged By:

Dale Krueger - RMT Ann Arbor

Checked By:

Dave Misky - RMT Milwaukee

RMT Field Soil Boring Log Information

IT Project No: 00-05984.01

Page 1 of 1

Project Name Charter Steel		Start Date 01/23/02		End Date 01/23/02		Boring Number SS-02	
Boring Drilled By HAD Drilling Inc. Andy Weitz				Drilling Method Geoprobe			
Drill Rig Geoprobe 5400		Common Well Name —		Initial Water Level —		Surface Elevation —	
Boring Location State Plane		Easting 1/4 of 1/4 of Section		Northing T N,R		Local Grid Location (If applicable) <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
County Cuyahoga		State OH		DNR County Code —		Civil Town/City/ or Village Cuyahoga Heights	

[illegible]

Logged By:

Checked By:

Dave Kreeger - Rmt Ann Arbor

DAUG. NISVLY RMT MILWAUKEE

RMT Field Soil Boring Log Information

Project No: 00-05984.01

Page 1 of 1

Project Name Charter Steel		Start Date 01/23/02		End Date 01/23/02		Boring Number SB-03	
Boring Drilled By HAD Drilling, Inc. Andy Wolpe		Drilling Method Geoprobe					
Drill Rig Geoprobe 5400		Common Well Name —		Initial Water Level —		Surface Elevation —	
Boring Location State Plane 1/4 of		Easting 1/4 of Section		Northings T N,R		Local Grid Location (if applicable) <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
County Cuyahoga		State OH		DNR County Code —		Civil Town/City/ or Village Cuyahoga Heights	

Number	Length (In) Recovered	Blow Counts	Depth In Feet	Group Name, Percent & Range of Particle Sizes, Plasticity, Color, Odor, Moisture, Density/Consistency, Additional Comments, Geologic Origin (Stratigraphic Unit)	Sample Type	PID/FID	Standard Penetration	Well Diagram	RQD/ Comments
		1	0.5	SILT (ml), some sand, little gravel, dark brown (1042 4/3), moist					
		1	1.0	GRAVEL (GP), medium, some sand, some silt, gray (1042 5/1), moist					
1	36	1	1.5	SAND (SW), fine to coarse, some silt, trace fine gravel, yellow-brown (1042 5/4), moist, slag debris					
		1	2.0			ND			
		1	2.5						
		1	3.0	SAND-CLAY (SC), few sand, non-plastic, yellow-brown (1042 5/4), hard, moist					
		1	3.5	SLAG DEBRIS					
		1	4.0	EOB at 4' bgs					

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DAVE KEEGER, RMT Ann Arbor

Checked By:

Dave Misky - RMT Milwaukee

RMT Field Soil Boring Log Information

Project No: 00-05984.01

Page 1 of 1

Project Name Charter Steel		Start Date 01/23/02	End Date 01/23/02	Boring Number SB-04
Boring Drilled By HAD Drilling, Inc. Andy Walpp		Drilling Method Geoprobe		
Drill Rig Geoprobe 5400	Common Well Name —	Initial Water Level —	Surface Elevation —	Borehole Diameter 2 Inches
Boring Location State Plane 1/4 of 1/4 of Section T N,R		Local Grid Location (If applicable) Feet <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W		
County Cuyahoga	State OH	DNR County Code —	Civil Town/City/ or Village Cuyahoga Heights	

Number	Length (In) Recovered	Blow Counts	Depth In Feet	Group Name, Percent & Range of Particle Sizes, Plasticity, Color, Odor, Moisture, Density/Consistency, Additional Comments, Geologic Origin (Stratigraphic Unit)	Sample Type	PID/FID	Standard Penetration	Well Diagram	ROD/Comments
			0	SILT (ML), some sand, little gravel, dark br (10YR 4/3), moist					
			0.5	GRAVEL (GP), medium, some sand, some silt, gray (10YR 5/1), moist					
			1.0						
			1.5	SAND (SW), fine to coarse, some silt, trace fine gravel, yellow brown (10YR 5/4), moist, slag debris					
1	40		2.0			NO			
			2.5						
			3.0						
			3.5	SILT-CLAY (CL), few sand, non-plastic, yellow brown (10YR 5/4), hard, damp					
			4.0	SLAG DEBRIS					
			4.5	EOB at 4" bgs					

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Dave Kreeger - Ann Arbor

Dave Miskay - Milwaukee

RMT Field Soil Boring Log Information

Project No: 00-05984.01

Page 1 of 1

Project Name Charter Steel		Start Date 01/23/02	End Date 01/23/02	Boring Number SB-05
Boring Drilled By HAD Drilling, Inc. Andy Weipp		Drilling Method Geoprobe		
Drill Rig Geoprobe 5400	Common Well Name —	Initial Water Level —	Surface Elevation —	Borehole Diameter 2 Inches
Boring Location State Plane 1/4 of 1/4 of Section T N,R		Local Grid Location (If applicable) Feet <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W		
County Cuyahoga	State OH	DNR County Code —	Civil Town/City/ or Village Cuyahoga Heights	

Number	Length (in) Recovered	Blow Counts	Depth In Feet	Group Name, Percent & Range of Particle Sizes, Plasticity, Color, Odor, Moisture, Density/Consistency, Additional Comments, Geologic Origin (Stratigraphic Unit)	Sample Type	PID/FID	Standard Penetration	Well Diagram	ROD/Comments
			0	CLAYE-SILT (ML), some gravel, dark gray-brown (10YR 4/2), damp					
1	24		2	SANDSTONE fragments?					
			4	SILT (ML), some clay, some sand, dark br (10YR 3/3), damp, clay debris		0			
2	16		6	SAND (SW), fine to coarse, dark yellow brown (10YR 4/4), damp/moist, dark stains at 8' bgs, no color		0			
			8						
3	18		10			23.2			
			12						
4	22		14			21.2			
			16	SILT (ML), some clay, some fine sand, yellow brown (10YR 4/4), moist					
				EOB at 16' bgs					

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Dave Kreeger - RMT Ann Arbor

Dave Miskie - RMT Milwaukee

RMT Field Soil Boring Log Information

RMT Project No: 00-05984.01

Page 1 of 1

Project Name Charter Steel		Start Date 01/24/02	End Date 01/24/02	Boring Number SB-06
Boring Drilled By HAD Drilling, Inc. Scott Heise		Drilling Method Hollow-Stein Auger		
Drill Rig CME 85	Common Well Name —	Initial Water Level —	Surface Elevation —	Borehole Diameter 8 Inches
Boring Location State Plane 1/4 of		Easting 1/4 of Section		Northings T N,R
County Cuyahoga		State OH	DNR County Code —	Civil Town/City/Village Cuyahoga Heights

Number	Length (In) Recovered	Blow Counts	Depth In Feet	Group Name, Percent & Range of Particle Sizes, Plasticity, Color, Odor, Moisture, Density/Consistency, Additional Comments, Geologic Origin (Stratigraphic Unit)	Sample Type	PID/FID	Standard Penetration	Well Diagram	ROD/ Comments
1	—	—	0 2 4	SELT (ML) with some clay, some sand, some gravel, brown (104R 5/13) to very dark gray-brown (104R 3/2), damp. All		ND			
2	14	8-4 12-6	6			ND			
3	14	18-20 4-4	8	CONCRETE		ND			
4	24	1-2 2-2	10	SAND (SW), Fine to coarse, some silt, yellow-brown (104R 5/6), moist to wet		ND			
5	22	2-2 2-2	12			ND			
6	24	1-3 5-5	14	SELT-CLAY (CL), some Fine sand, yellow-brown (104R 5/12), plastic, wet, medium stiff		ND			
			16	EOB at 15' bgs					

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Dave Wreger - RMT Ann Arbor

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Dave Miskin - RMT Milwaukee

RMT Field Soil Boring Log Information

Project No: 00-05984.01

Page 1 of 2

Project Name Charter Steel		Start Date 01/24/02	End Date 01/24/02	Boring Number TW-01
Boring Drilled By HAD Drilling, Inc. Scott Heise		Drilling Method Hollow-Stein Auger		
Drill Rig CME 85	Common Well Name —	Initial Water Level —	Surface Elevation —	Borehole Diameter 8 Inches
Boring Location State Plane 1/4 of —		Easting —		Northings —
County Cuyahoga		State OH	DNR County Code —	Civil Town/City/ or Village Cuyahoga Heights

Number	Length (In) Recovered	Blow Counts	Depth In Feet	Group Name, Percent & Range of Particle Sizes, Plasticity, Color, Odor, Moisture, Density/Consistency, Additional Comments, Geologic Origin (Stratigraphic Unit)	Sample Type	PID/FID	Standard Penetration	Well Diagram	RCD/ Comments
			0	Top Soil over					
1			2	Silt (ML), some clay, some sand, some gravel, very dark brown (10YR 3/2), moist, fill					
			4						
			6						
2			8	SLAG DEBRIS					
			10	Silt (ML), same as 0.5-6.5' bgs					
			12	Silt-clay (CL), plastic, some fine sand, dark brown (10YR 3/3), moist, soft to stiff, black staining at 15.5' bgs					
			14						
4	24	1-2	16						
		2-3							
5	24	1-1	18						
		1-1							
6	24	1-1	20	Silt-clay (CL), plastic, dark gray (10YR 4/1), wet to sat. (soft at 21.5')					
		1-2							
7	24	1-1	22	Silt (ML), some fine sand, gray (10YR 5/1), sat., slag fragments					
		1-2							
			24						

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Checked By:

Dave Kreeger - RMT Ann Arbor

Dave Miskay - RMT Milwaukee

RMT Field Soil Boring Log Information

RMT Project No: 00-05984.01

Page 2 of 2

Project Name Charter Steel		Start Date 01/24/02		End Date 01/24/02		Boring Number TW-01	
Boring Drilled By HAD Drilling, Inc. Scott House		Drilling Method Hollow Stem Auger					
Drill Rig CME 85		Common Well Name —		Initial Water Level —		Surface Elevation —	
Boring Location State Plane		Easting 1/4 of		Northing 1/4 of Section		Local Grid Location (If applicable)	
		T		N,R		<input type="checkbox"/> N <input type="checkbox"/> S	
County Cuyahoga		State OH		DNR County Code —		Civil Town/City/Village Cuyahoga Heights	

Number	Length (In) Recovered	Blow Counts	Depth In Feet	Group Name, Percent & Range of Particle Sizes, Plasticity, Color, Odor, Moisture, Density/Consistency, Additional Comments, Geologic Origin (Stratigraphic Unit)	Sample Type	PID/FID	Standard Penetration	Well Diagram	ROD/ Comments
8	24	1-1 2-3	24	SAND (SW), Fine to coarse, some silt, trace fine gravel, gray (10% R.S.), sat., grain size ↑ w/ depth					
9	30	1-1 1-2	26						
10	24	1-1 2-4	28						
			30	EOB at 29' bgs					

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Checked By:

Dave Kreeger - RMT Ann Arbor

Dark Misky - Rut Milwaukee

RMT Field Soil Boring Log Information

RMT Project No: 00-05984.01

Page 1 of 2

Project Name Charter Steel		Start Date 01/22/02	End Date 01/22/02	Boring Number TW-02
Boring Drilled By HAD Drilling, Inc. Andy Wolff		Drilling Method Geoprobe		
Drill Rig Geoprobe 5400	Common Well Name —	Initial Water Level —	Surface Elevation —	Borehole Diameter 2 Inches
Boring Location State Plane 1/4 of 1/4 of Section T N,R		Local Grid Location (If applicable) <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W		
County Cuyahoga	State OH	DNR County Code —	Civil Town/City or Village Cuyahoga Heights	

Number	Length (In) Recovered	Blow Counts	Depth In Feet	Group Name, Percent & Range of Particle Sizes, Plasticity, Color, Odor, Moisture, Density/Consistency, Additional Comments, Geologic Origin (Stratigraphic Unit)	Sample Type	PID/FID	Standard Penetration	Well Diagram	RQD/Comments
1	28		0	SILT (ML), fine clay, trace gravel, dark brown (10YR 3/3), damp, fill					
			2						
			4	SILTY-CLAY (CL), non-plastic, dark yellow brown (10YR 4/4), damp, hard, fill					
2	14		6	SILT (ML), same as 0-3' bgs, damp/moist, slag debris throughout					
			8						
3	12		10						
			12						
4	38		14						
			16						
5	48		18	SILTY-CLAY (CL), plastic, tr. fine sand, yel/bw (10YR 5/4), moist-saturated, soft					
			20	SAND (SW), fine to coarse, yel/bw (10YR 5/4), trace silt, saturated					
6	48		22	SILTY-CLAY (CL), plastic, tr. fine sand, yel/bw (10YR 5/4), moist-saturated, medium st. pf to soft, black staining, slag fragments from 20.5-21.2'					
			24						

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Checked By:

Dave Kreeger - RMT Ann Arbor

Dave Misky - RMT Milwaukee

RMT Field Soil Boring Log Information

RMT Project No: 00-05984.01

Page 2 of 2

Project Name Charter Steel		Start Date 01/22/02	End Date 01/22/02	Boring Number TW-02
Boring Drilled By HAD Drilling, Inc. Andy Wolff		Drilling Method Geoprobe		
Drill Rig Geoprobe 5400	Common Well Name —	Initial Water Level —	Surface Elevation —	Borehole Diameter 2 Inches
Boring Location State Plane Easting Northing 1/4 of 1/4 of Section T N,R			Local Grid Location (If applicable) <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W Feet Feet	
County Cuyahoga	State OH	DNR County Code —	Civil Town/City/Dor Village Cuyahoga Heights	

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Doug. Kreeger - Rpt Ann Arbor

Dave Miskin - RUT Milwaukee

RMT Field Soil Boring Log Information

Project No: 00-05984.01

Page 1 of 2

Project Name Charter Steel		Start Date 01/22/02	End Date 01/22/02	Boring Number TW-03
Boring Drilled By HAD Drilling, Inc. Andy Wolff		Drilling Method Geoprobe		
Drill Rig Geoprobe 5400	Common Well Name —	Initial Water Level —	Surface Elevation —	Borehole Diameter 2 Inches
Boring Location State Plane 1/4 of		Easting 1/4 of Section		Northings T N,R
County Cuyahoga		State OH	DNR County Code —	Civil Town/City/ or Village Cuyahoga Heights

Number	Length (In) Recovered	Blow Counts	Depth In Feet	Group Name, Percent & Range of Particle Sizes, Plasticity, Color, Odor, Moisture, Density/Consistency, Additional Comments, Geologic Origin (Stratigraphic Unit)	Sample Type	PID/FID	Standard Penetration	Well Diagram	ROD/Comments
1	48		2	CLAYEY-SILT (ml), trace gravel, dark brown (104R 313), damp, sandstone fragments ~3" at 1.5' bgs					
			4	SILT-CLAY (cl), medium plastic, dark brown (104R 313), damp, st. fl. / medium st. fl.					
2	26		6	SILT (ml), some sand, dark brown (104R 313), damp, 4" clay layer @ 7.5', clay fragments throughout, some void					
			8						
3	46		10	SILT-CLAY (ml), same as 3-5' bgs					
			12						
4	24		14	GRAVEL/SLAG FILL, black, damp to saturated					
			16						
5	14		18						
			20						
6	14		22						
			24						

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Dave Wozniak - RMT Ann Arbor

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Dave Nisley - RMT Milwaukee

RMT Field Soil Boring Log Information

RMT Project No: 00-c5984.01

Page 2 of 2

Project Name Charter Steel		Start Date 01/22/02		End Date 01/22/02		Boring Number TW-03	
Boring Drilled By HAD Drilling, Inc. Andy Wolff		Drilling Method Geoprobe					
Drill Rig Geoprobe 5400		Common Well Name —		Initial Water Level —		Surface Elevation —	
Boring Location State Plane		Eastings 1/4 of		Northings 1/4 of Section		Local Grid Location (If applicable) Feet	
County Cuyahoga		State OH		DNR County Code —		Civil Town/City/Village Cuyahoga Heights	

Number	Length (In) Recovered	Blow Counts	Depth In Feet	Group Name, Percent & Range of Particle Sizes, Plasticity, Color, Odor, Moisture, Density/Consistency, Additional Comments, Geologic Origin (Stratigraphic Unit)	Sample Type	PID/FID	Standard Penetration	Well Diagram	RDD/ Comments
7	24		24	Same As Khour.					
			26	SAND(SW), A-to-C, Few silt, trace gravel, dark gray (10-12%)					
			28	EOD @ 28' bgs					

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Checked By:

Deane Kreeger - Rmt Ann Arbor

Dark Misky - Ratt Mitwankke

RMT Field Soil Boring Log Information

RMT Project No: 00-05984.01

Page 1 of 2

Project Name Charter Steel		Start Date 01/24/02	End Date 01/24/02	Boring Number TW-04
Boring Drilled By HAD Drilling, Inc. Scott Heise		Drilling Method Hollow-Stem Auger		
Drill Rig CME 95	Common Well Name —	Initial Water Level —	Surface Elevation —	Borehole Diameter 8 Inches
Boring Location State Plane 1/4 of —		Easting 1/4 of Section —		Northing T —
County Cuyahoga		State OH	DNR County Code —	Civil Town/City/Village Cuyahoga Heights

Number	Length (In) Recovered	Blow Counts	Depth In Feet	Group Name, Percent & Range of Particle Sizes, Plasticity, Color, Odor, Moisture, Density/Consistency, Additional Comments, Geologic Origin (Stratigraphic Unit)	Sample Type	PID/FID	Standard Penetration	Well Diagram	ROD/ Comments
			0						
1			2	GRAVEL (GP), medium, some silt, some sand, dark gray (10YR 4/1) to black (10YR 2/1), moist, clay debris, brick debris					
			4						
			6						
2			8						
			10						
3			12						
			14						
4	1-5 6-8		16	SLAG DEBRIS, wet to sat (at 17.5')					
5	1-4 6-8		18						
6	2-6 20-6		20						
			22						
			24	SELT-CLAY (CL), plastic, trace sand, dark gray (10YR 4/1), to dark gray-brown (10YR 5/2), med. & HF to st. PF, damp					
				EOB @ 25' bgs					

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Dave Kreeger - RMT Ann Arbor

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Dave Miskie - RMT Milwaukee

RMT Field Soil Boring Log Information

Project No: 00-05984.01

Page 1 of 2

Project Name Charter Steel		Start Date 01/24/02	End Date 01/24/02	Boring Number TW-05
Boring Drilled By HAD Drilling, Inc. Scott Heise		Drilling Method Hollow-Stein Auger		
Drill Rig CME 85	Common Well Name —	Initial Water Level —	Surface Elevation —	Borehole Diameter 8 Inches
Boring Location State Plane 1/4 of 1/4 of Section T N,R		Local Grid Location (If applicable) <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W		
County Cuyahoga	State OH	DNR County Code —	Civil Town/City/ or Village Cuyahoga Heights	

Number	Length (In) Recovered	Blow Counts	Depth In Feet	Group Name, Percent & Range of Particle Sizes, Plasticity, Color, Odor, Moisture, Density/Consistency, Additional Comments, Geologic Origin (Stratigraphic Unit)	Sample Type	PID/FID	Standard Penetration	Well Diagram	RQD/ Comments
			0						
1			2	SAND + GRAVEL, pale brown (10YR 6/3) to dark brown (10YR 3/3), some silt, some clay, damp, slag debris, fill					
			4						
			6						
2			8	SLAG, moist to submoist (@ 2')					
			10						
3			12						
			14						
4	12	6-10 22-12	16						
5	10	5-7 14-8	18						
6	12	2-3 4-16	20						
7	10	2-6 8-10	22						
8	10	2-4 8-8	24						

Logged By: Dave Kreeger - RMT Ann Arbor	Checked By: Dave Nisley - RMT Milwaukee
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RMT Field Soil Boring Log Information

RMT Project No: 00-05984.01

Page 2 of 2

Project Name Charter Steel		Start Date 01/24/02		End Date 01/24/02		Boring Number TW-05	
Boring Drilled By HAD Drilling, Inc. Scott Hesse		Drilling Method Hollow - Stem Auger					
Drill Rig CME 85		Common Well Name —		Initial Water Level —		Surface Elevation —	
Boring Location State Plane		Eastings 1/4 of		Northings 1/4 of Section		Local Grid Location (If applicable) Feet	
County Cuyahoga		State OH		DNR County Code —		Civil Town/City/Village Cuyahoga Heights	

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Logged By:

Dane. Krueger - RMT Ann Arbor

Checked By:

Dark Alsky - RUT Mitwanka

Appendix D

Analytical Data Sheets

Appendix D

Analytical Data Sheets

SEVERN

TRENT

SERVICES

STL North Canton

4101 Shuffel Drive NW
North Canton, OH 44720-6961

Tel: 330 497 9396

Fax: 330 497 0772

www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. 5891.01


CHARTER STEEL

Lot #: A2A250196

Dave Misky

RMT Inc
150 N Patrick Blvd Suite 180
Brookfield, WI 53045-5854

SEVERN TRENT LABORATORIES, INC.



Kenneth J. Kuzior
Project Manager

February 5, 2002

CASE NARRATIVE

A2A250196

The following report contains the analytical results for three water samples, four solid samples, and one quality control sample submitted to STL North Canton by RMT from the Charter Steel Site, project number 5891.01. The samples were received on January 25, 2002, according to documented sample acceptance procedures and were analyzed in accordance with Ohio Voluntary Action Program protocols (Lab Certification CL0024).

Acidity analyses were performed at STL Denver.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the analytical methods summary page in accordance with the methods indicated. Preliminary results were provided to Joel Hunt and Dave Misky on January 30 and 31, 2001. A summary of QC data for these analyses is included at the rear of the report.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

SUPPLEMENTAL QC INFORMATION

GC/MS VOLATILES

The internal standard areas were outside acceptance limits for sample SB-06 9-11 due to matrix effects.

GC VOLATILES

An LCS/LCSD was provided for batch 2029169 since there was insufficient sample volume to perform an MS/MSD.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

Volatile (GC or GC/MS)

Methylene chloride

Acetone

2-Butanone

Semivolatile (GC/MS)

Phthalate Esters

Metals

Copper

Iron

Zinc

Lead*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*
- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, PAH, and Herbicide methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

STL North Canton Certifications and Approvals:

Alabama (#41170), California (#2157), Connecticut (#PH-0590), Florida (#E87225), Illinois (#100439), Kansas (#E10336), Kentucky (#90021), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), Missouri (#6090), New Jersey (#74001), New York (#10975), North Dakota (#R-156), Ohio (#6090), OhioVAP (#CL0024), Pennsylvania (#68-340), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



ANALYTICAL METHODS SUMMARY

A2A250196

PARAMETER	ANALYTICAL METHOD
pH (Electrometric)	MCAWW 150.1
Acidity (Titrimetric)	MCAWW 305.1
Extractable Petroleum Hydrocarbons	SW846 8015B
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 7470A
Specific Conductance	MCAWW 120.1
Total Cyanide	MCAWW 335.2
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B
Volatile Petroleum Hydrocarbons	SW846 8015 MOD

References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical
Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A2A250196

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
ER8D3	001	SB-06 9-11	01/24/02	14:20
ER8D5	002	SB-06 11-13	01/24/02	14:40
ER8D6	003	TW-01	01/25/02	08:00
ER8EE	004	TW-04	01/25/02	08:45
ER8EF	005	TW-05	01/25/02	09:45
ER8EG	006	TRIP BLANK	01/25/02	
ER8EH	007	SB-05 9-11	01/23/02	11:00
ER8EM	008	SB-05 12-14	01/23/02	11:20

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

RMT INC

Client Sample ID: SB-06 9-11

GC/MS Volatiles

Lot-Sample #...: A2A250196-001 Work Order #...: ER8D31AD Matrix.....: SO
Date Sampled...: 01/24/02 14:20 Date Received...: 01/25/02
Prep Date.....: 01/29/02 Analysis Date...: 01/29/02
Prep Batch #...: 2030125
Dilution Factor: 1.36
% Moisture.....: 11 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	7.6	ug/kg
Ethylbenzene	ND	7.6	ug/kg
Methyl tert-butyl ether	ND	30	ug/kg
Toluene	ND	7.6	ug/kg
Xylenes (total)	ND	15	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	98	(59 - 138)
1,2-Dichloroethane-d4	95	(61 - 130)
Toluene-d8	110	(60 - 143)
4-Bromofluorobenzene	80	(47 - 158)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

RMT INC

Client Sample ID: SB-06 9-11

GC Volatiles

Lot-Sample #....: A2A250196-001 Work Order #....: ER8D31AE Matrix.....: SO
 Date Sampled....: 01/24/02 14:20 Date Received...: 01/25/02
 Prep Date.....: 01/28/02 Analysis Date...: 01/28/02
 Prep Batch #....: 2029169
 Dilution Factor: 1
 % Moisture.....: 11 Method.....: SW846 8015 MOD

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
TPH (as Gasoline)	ND	110	ug/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Trifluorotoluene	30	(10 - 150)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.



May 8, 2015

Via Electronic Transmission and Overnight Mail

Mirtha Capiro
United States Environmental Protection Agency
Region V
77 W. Jackson Blvd. (LR-8J)
Chicago, IL 60604-3507

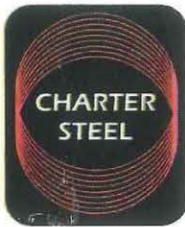
Subject: Charter Steel – Cleveland Plant
4300 East 49th Street, Cuyahoga Heights, Ohio

Ms. Capiro:

In response to U.S. EPA's recent inquiry, the purpose of this letter is to provide the Agency with current information regarding the Charter Steel facility located at 4300 East 49th Street, Cuyahoga Heights, Ohio ("Site") and, more specifically, to bridge the information gap between the Preliminary Assessment/Visual Site Inspection ("PA/VSI") by U.S. EPA's contractor in 1992 and the present. Thank you for providing a copy of the December 8, 2011 report prepared by Booz Allen Hamilton on behalf of U.S. EPA, which fills in some of the gaps.

Brief History

The Site currently occupied by Charter Steel was once part of the larger United States Steel Corporation – American Steel and Wire facility ("US Steel"), which appears to have operated from approximately 1910 until 1984. Following the shutdown of the facility by US Steel in 1984, the facility was sold to a new company, American Steel and Wire Corporation, which re-started operations in 1986. Birmingham Steel Corporation purchased American Steel and Wire in 1993. Birmingham Steel Corporation filed for protection under Chapter 11 of the U.S. Bankruptcy Code in June 2002, with the majority of its assets to be purchased by Nucor Corporation in a pre-arranged deal. Charter Manufacturing Company purchased Birmingham Steel's American Steel and Wire division in March 2002. Charter Steel is an operating division of Charter Manufacturing Company. We offer this ownership overview to help explain the difficulties in pulling together historic information dating back decades and over several owners with no affiliation to Charter Steel. We continue to pull information together, but did not want to delay submission of at least some information while we do so.



Perhaps the best way to understand the changes that have occurred since the 1992 PA/VSI and Charter Steel's operations at the Site is to compare aerials. Enclosed as Figure 1 is an aerial photograph depicting Charter Steel's present-day operations, structures and approximate property boundary. Note that Charter Steel does not own the building marked "Worthington Steel." Figure 2 is a 1994 aerial photograph on which I have marked the approximate locations of the 10 solid waste management units ("SWMUs") identified in the 1992 PA/VSI report. Figure 3 is the same aerial photograph that is included as Figure 1, but again I have marked the approximate locations of the 10 SWMUs identified in the 1992 PA/VSI report. Finally, Figure 4 depicts the facility as it existed in 2002, with yellow shading to indicate the buildings that were removed by Charter Steel in 2004 and orange shading to indicate the structures constructed by American Steel and Wire in 1996 (i.e., these structures were not yet built at the time of the 1992 PA/VSI). Charter Steel constructed the new melting facility in 2005.

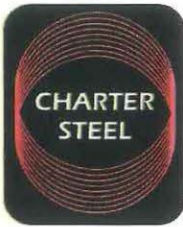
Current Site Operations

The Charter Steel-Cleveland Plant occupies approximately 400 total acres in a highly industrial area of southwest Cleveland, of which approximately 200 acres are covered by buildings, pavement, and other impervious surfaces. The surrounding area includes other steel producing companies, manufacturers, and light industrial businesses. The facility typically operates 24 hours per day, seven days per week.

Charter Steel-Cleveland is an integrated steelmaking manufacturing and distribution facility that produces carbon and alloy steel bar. The melting facility includes an electric arc furnace, ladle metallurgical furnace, vacuum degassing unit, billet casting facility, and wastewater treatment plant. The casting facility is a four strand caster that produces 6" x 6" billet of various lengths. The melting and casting facility was constructed where the Rod Mill, Rod Mill Storage, #1 and #2 billet yards, and Billet Conditioning & Inspection buildings were located at the time of the 1992 PA/VSI (see yellow highlighted buildings on Figure 4). The bar rolling facility was built in 1996 (see orange highlighted buildings on Figure 4). The bar mill facility consists of a reheat furnace, rolling operations, coiler operations, and a wastewater treatment plant. The wastewater treatment plants for both rolling and melting operations are closed systems that have permitted blow downs to the Northeast Ohio Regional Sewer District. The on-site Lagoon is no longer a part of the plant process recycle water system.

Charter Steel is a large quantity generator of hazardous waste, primarily emission control dust from the electric arc furnace operations (EAF dust). Melt shop operations began in June 2006, and emissions from the melt shop and associated dust handling equipment are subject to a Title V operating permit. EAF dust is shipped off-site for recycling, and is not managed on-site. Charter Steel maintains two Less-Than-90-Day storage areas. One is located at the west end of the parts warehouse (same building in which former SWMU 10 – Drum Storage Area 2 was apparently located, see below). The other is located in the building just east of former SWMU 3 (former scale pit). Periodically the plant generates waste paint from punctured aerosol cans and K061 contaminated debris.

↓
hoses or Tyvec suits or things that
come in contact during cleaning



Summary and Status of SWMUs Identified in 1992

SWMU 1 – Former Wastewater Treatment Lagoon / Current Stormwater Lagoon

This unit reportedly started operations in 1966 and ceased being used as part of the wastewater treatment system in 2006. The PA/VSI report recommended no further action at SWMU 1. Charter Steel cleaned out and closed the used oil tanks and piping in October 2005. The Lagoon now serves only as a stormwater retention basin, with overflow at Outfall 001 to the Cuyahoga River covered by a General Stormwater Permit. The Stormwater Lagoon is periodically dredged in order to maintain capacity, and was last dredged in 2012. Dredged sediment was characterized as nonhazardous and sent off-site for disposal.

SWMU 2 – Former Sludge Drying Beds

The PA/VSI report recommended no further action at SWMU 2. Charter Steel has never used these drying beds and is unsure of their exact location at this time.

SWMU 3 – Former Scale Pit / Current Stormwater Settling Basin

The PA/VSI report recommended no further action at SWMU 3. SWMU 3 ceased operations as a scale pit when the Rod Mill permanently shut down in 2001, prior to Charter Steel's acquisition of the property. Today, the former scale pit serves as an initial storm water settling basin that overflows to the Stormwater Lagoon (formerly SWMU 1).

SWMU 4 – Former Hazardous Waste Drum Storage Area

The PA/VSI report noted that this former hazardous waste drum storage area was undergoing RCRA closure. Subsequent documentation indicates that closure was completed during American Steel and Wire's period of ownership, by US Steel. We have not located the closure documentation, with the exception of the February 15, 1996 letter from Ohio EPA approving the final closure and noting that the facility was from that point forward a large quantity generator rather than a treatment/storage/disposal facility. Based on a review of the 1992 PA/VSI and a comparison of aerial photographs, it appears that the current Bar Mill, constructed in 1996 by American Steel and Wire, sits on top of the location of former SMWU 4.

SWMU 5 – Former Hazardous Waste Tank Farm

The PA/VSI report noted that this former hazardous waste tank farm was also undergoing RCRA closure. As with SWMU 4, subsequent documentation indicates that closure was completed by US Steel in the 1990s with Ohio EPA approval of final closure on February 15, 1996. Based on a review of the 1992



PA/VSI and a comparison of aerial photographs, the location of former SWMU 5 is completely under concrete and the area used for outdoor coil storage.

SWMU 6 – Former Dumpster Boxes

The PA/VSI recommended no further action at SWMU 6. This SWMU no longer exists and was never used by Charter Steel. As with SWMU 5, the former location of these dumpster boxes is completely under concrete and the area used for outdoor coil storage.

SWMU 7 – Former Baghouse

The PA/VSI recommended no further action at SWMU 7. This SWMU no longer exists and was never used by Charter Steel. The baghouse and related operations were all part of the building demolition that occurred in 2004 in advance of construction of the new Melt Shop and caster. The caster billet cooling bed area building was constructed on top of where this SWMU appears to have been located.

SWMU 8 – Former Hopper

The PA/VSI recommended no further action at SWMU 8. This SWMU no longer exists and was never used by Charter Steel. The hopper and related operations were all part of the building demolition that occurred in 2004 in advance of construction of the new Melt Shop and caster. The Nitrogen, Argon and Oxygen compressed gas tank farm was constructed on top of where this SWMU appears to have been located.

SWMU 9 – Former Drum Storage Area 1

The PA/VSI recommended no further action at SWMU 9. This SWMU no longer exists and was never used by Charter Steel. The area and related operations were all part of the building demolition that occurred in 2004 in advance of construction of the new Melt Shop and caster. The Meltshop wastewater treatment plant was built where this SWMU appears to have been located.

SWMU 10 – Former Drum Storage Area 2

The PA/VSI recommended no further action at SWMU 10. The storage building in which this SWMU was located is currently utilized as a parts warehouse. The exact location of the area when used for drum storage by prior owners is unclear.

U.S. EPA has indicated that the Charter Steel facility may be subject to RCRA corrective action by virtue of the two former hazardous waste units once owned and operated by U.S. Steel and/or American Steel and Wire, which at that time operated as "interim status facilities." Because both of these units were



properly closed pursuant to applicable Ohio EPA hazardous waste regulations by the previous owners, it is not clear to us that they remain "interim status facilities" such that Charter Steel – as a separate owner decades later – should be subjected to site-wide corrective action. Charter Steel has only operated as a large quantity generator. We are concerned about the potential scope of the RCRA corrective action program, based on experiences at other steelmaking facilities elsewhere, and are somewhat reluctant to launch down this path. It can be very expensive and time-consuming, even if the expected scope is to demonstrate that no remediation is needed.

Nonetheless, there may be value to both U.S. EPA and Charter Steel in moving forward cooperatively in a step-by-step and hopefully streamlined fashion while "agreeing to disagree" as to U.S. EPA's authority. A cooperative, streamlined approach would facilitate achievement of U.S. EPA's stated 2020 goal while at the same time eliminate any uncertainty as to potential corrective action obligations at our facility. Thus, we are interested in better understanding the scope of what U.S. EPA believes is needed at our facility, and the possible options for proceeding (perhaps even voluntarily rather than under a formal Order).

We are continuing to compile historic information, including any existing sampling data that may exist. Meanwhile, we would like to discuss with you next steps.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jay Lawniczak". The signature is stylized with a large, looped "J" and a long, sweeping horizontal stroke at the end.

Jay Lawniczak
Sr. Environmental Engineer
Charter Steel- Cleveland



May 22, 2015

Via Electronic Transmission and Overnight Mail

Mirtha Capiro
United States Environmental Protection Agency
Region V
77 W. Jackson Blvd. (LR-8J)
Chicago, IL 60604-3507

Subject: Charter Steel – Cleveland Plant
4300 East 49th Street, Cuyahoga Heights, Ohio

Ms. Capiro:

Charter Steel is responding to your email dated May 5, 2015, in which you requested additional information pertaining to historical sampling data for the Charter Steel Cleveland site. I have attached information covering years 1986 to 2012. If you have any additional questions while reviewing this information, do not hesitate to contact me. Also, this submission is not intended to waive any previous assertion of privilege, except as to the specific documents, or excerpts of documents, provided.

Sincerely,

A handwritten signature in black ink, appearing to read "Jay Lawniczak". The signature is stylized with a large, looped "J" and a long, sweeping underline.

Jay Lawniczak
Sr. Environmental Engineer
Charter Steel- Cleveland



Figure 1

Present

4/19/1994

1994

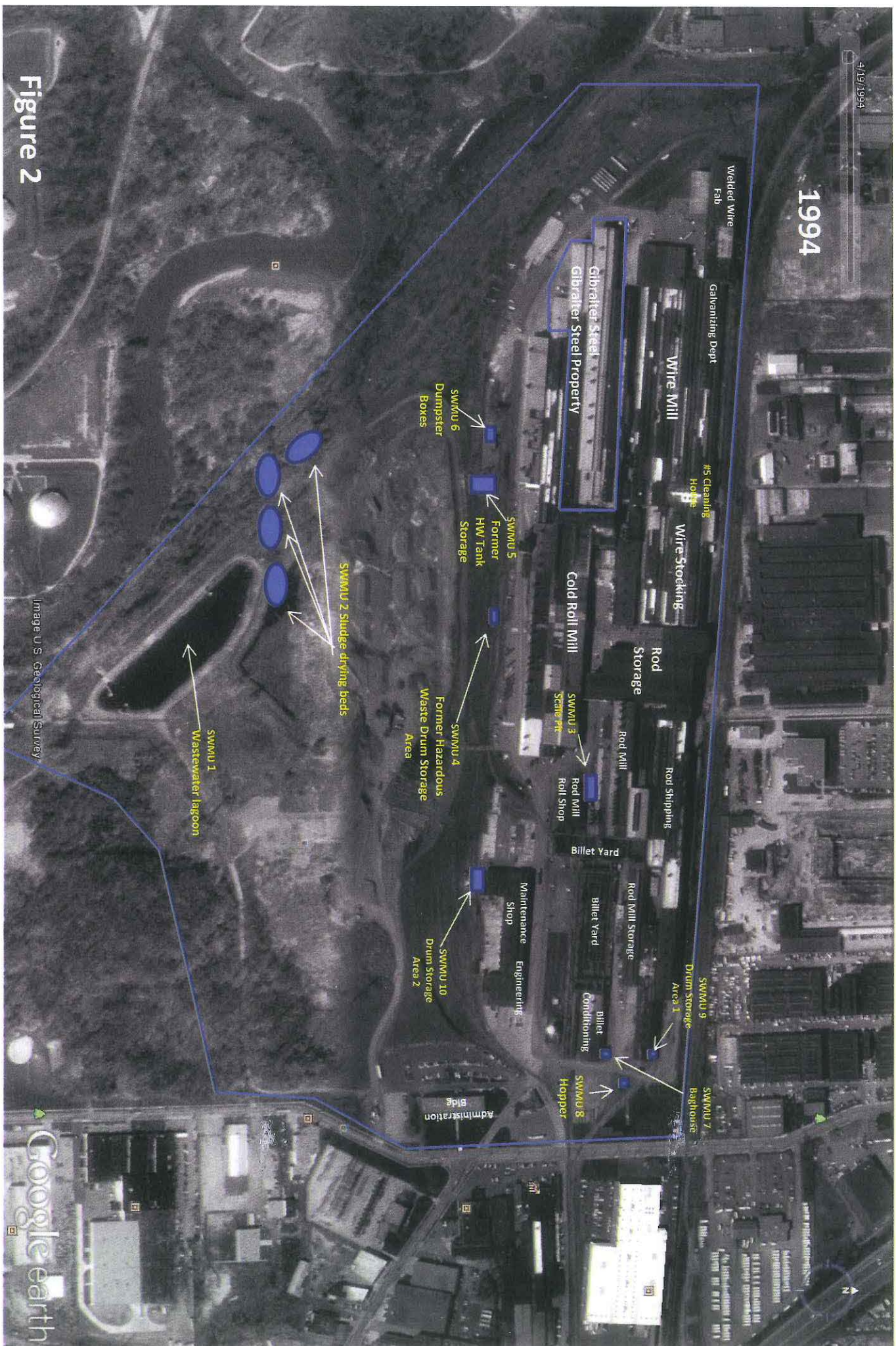


Figure 2

1994

Image U.S. Geological Survey

Google earth

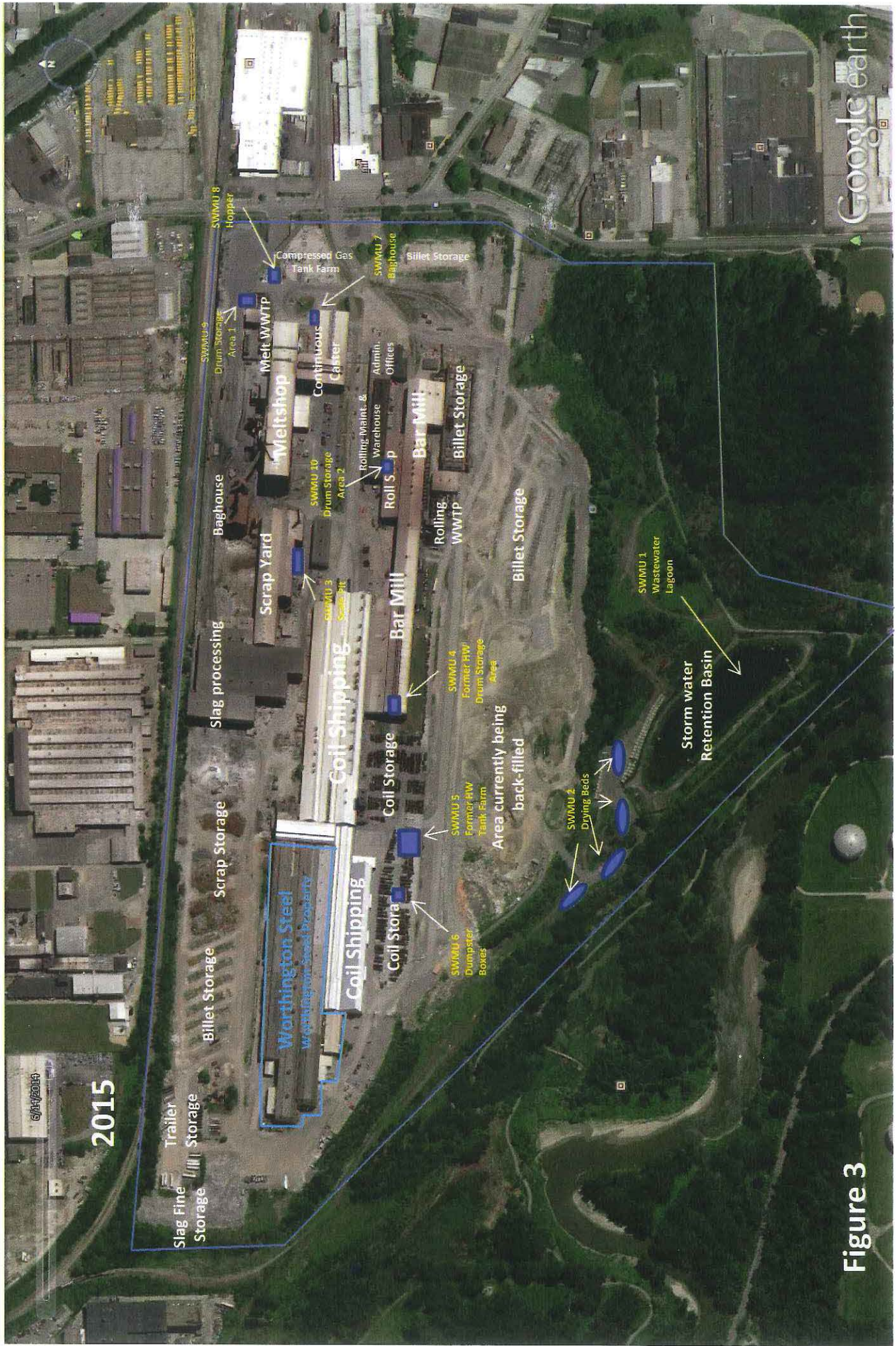


Figure 3

Present

APPROXIMATE PROPERTY LINE
COMMON STEEL PROPERTY

Figure 4

